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INDUSTRIAL MEDICINE

Industrial Health, Occupational Medicine and Traumatic Surgery

April, 1946

Industrial Psychiatry
— In the Community of Oak Ridge —

Occupational Lead Poisoning
— A Study of Cases —

"The Doctor in Industry"
— General Motors Dramatizes Industrial Medicine —

A Mental Hygiene Unit
— Organization in Industry —

Sanitation and Public Health
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— Central States Midwinter Scientific Session —

The Treatment of Dysmenorrhea
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**Handbook of Therapy, Chicago, Published by American Medical Association, 1935, p. 58.

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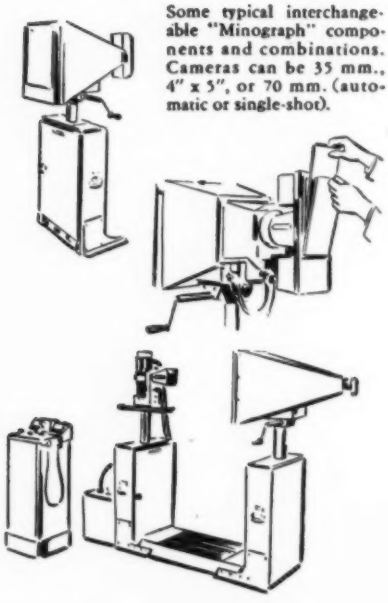

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IN OUR editorial entitled "Propaganda," (INDUSTRIAL MEDICINE, 15:1, 42, January, 1946) we said, "or stop the propaganda altogether by an enactment to prevent, under penalty, the use by any and all government agencies and bureaus of any taxpayers' money for any purpose of influencing public opinion." It has been brought to our attention that "a section of the Criminal Code forbids departmental use of public money in payment of propaganda for or against any bill before Congress without express authorization of Congress." The source of this information then goes on to remark: "The President doesn't seem to be aware of this prohibition" . . . . THE article on "The Thymol-Barbital Test in Experimental Carbon Tetrachloride Poisoning," by DR. CAREY P. MCCORD, DR. JAMES H. STERNER and others, of which the summary is quoted on page 303 from *Occupational Medicine*, February, 1946, refers to previous publications on this subject, among them being the first one by DR. MCCORD and his associates. This first one was entitled "The Thymol-Barbitone Test in Clinical Practice," and was published in INDUSTRIAL MEDICINE (14:11, 835-839) November, 1945. . . . AS A RESULT of one of those combinations of circumstances which are so distressing to publishers, the name of DR. KEEVE BRODMAN which should have appeared as one of the authors of the article "A Comprehensive Mental Hygiene Program at Caterpillar Tractor Co." in INDUSTRIAL MEDICINE for March, 1946, was omitted at the head of the article. DR. BRODMAN participated in this excellent project, and should be recognized as among those cooperating in its development. His current work, "The Organization of a Mental Hygiene Unit in Industry," appears on page 259. . . . The Program of the 1946 Conference on Industrial Health begins on page 268. A busy week!

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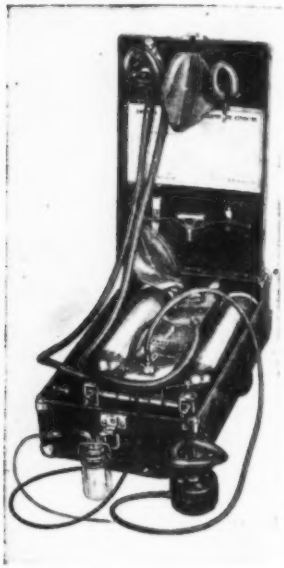

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DR. DOLOR J. LAUER has been granted the James S. Kemper Fellowship for 18 months graduate work in Industrial Medicine at the University of Pittsburgh School of Medicine, Pittsburgh. DR. LAUER is a graduate of the University of Minnesota Medical School.

THEODORE F. HATCH, Head of Membership Relations for Industrial Hygiene Foundation, has been awarded the Army's Legion of Merit. The presentation was made at Mellon Institute, the Foundation's headquarters, on March 4. The official Army release stated: "The Colonel was cited for his expert analysis of existing and anticipated problems which resulted in more efficient combat operations of armored vehicles and incalculable savings in lives and materiel. COL. HATCH was a member of the Sanitary Corps as Research Executive, Armored Research Laboratory, Kort Knox, Kentucky. He ably applied his wide experience in the field of ventilation engineering research." MR. HATCH came to the Foundation last November following his honorable discharge from the Army with the rank of Lieutenant Colonel.

GENERAL

THE Northern California Union Health Committee has been dissolved by action of its Board of Directors. The office closed February 15, 1946. Adequate financing has not been provided for continuance of the Committee's activities. It appears to be more foolish than courageous at this time to further attempt a joint labor program. However, although unions are greatly preoccupied with wage matters and the struggle against anti-labor legislation, they are interested in carrying on health activities and are making plans for that end within their own organizations.

—PAUL SCHNUR, Secretary.

Railway Surgeons

THE Medical and Surgical Section of the Association of American Railroads will meet on Monday, October 28, 1946, at the Hotel Sherman. Following this, on the next three days, October 29, 30 and 31, 1946, at the same place, the AMERICAN ASSOCIATION OF RAILWAY SURGEONS will hold its Annual Convention—the first one since 1941, the scheduled convention for 1942 having been cancelled. With the 1946 convention the AMERICAN ASSOCIATION OF RAILWAY SURGEONS will resume its place among the important organizations featuring their Annual Meetings.

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LABOR'S experience with sick benefits hardly justifies its support of the Wagner-Murray-Dingell bill, observes the *Christian Science Monitor*. Already the Tobacco Workers' International Union, by an overwhelming vote in a referendum, has stricken the sickness benefit provision from its constitution, and last year Daniel J. Tobin, president of the Teamsters' International, wrote several articles advising his union against undertaking a sickness insurance project. "The CIO and the AFL," says the *Monitor*, "have given compulsory sickness insurance their endorsement. Doubtless their pressure had much to do with President Truman's becoming a quick convert. But a number of influential labor leaders remain skeptical. They have good reason."

—*Medical Economics*, February, 1946.

ABOVE all, people should have a clear idea of what the Wagner-Murray-Dingell program will cost. In any family the wage earners will have to pay 4% of their income up to $3600 per year. That means $144 for every worker; $288 if there are two workers in the family; $432 if there are three.

—From an Address by DR. MORRIS FISHBEIN, *Bulletin of the Medical Society of the County of Kings*, March, 1946.

Vitamins in Season

THE season of growth is one of many factors which may affect the nutritional value of a vegetable, plant scientists of the U. S. Department of Agriculture report. For example, cabbage grown in the spring differs from that grown in the fall. Tests at the Southeastern Regional Vegetable Breeding Laboratory, Charleston, South Carolina, showed that the average yield of vitamin C, thiamin and riboflavin was greater in cabbage harvested in November than in that harvested in May, and the vitamins were more evenly distributed through the head in fall than in spring cabbage. As the weather becomes colder, more vitamins accumulate around the center of the cabbage, but in warmer weather the vitamins are most abundant in the outer portions of the head. The outer leaves of May cabbage were much richer in vitamins than the inner leaves next to the core, but in November cabbage the reverse was true.

—*Michigan Public Health*, March, 1946.

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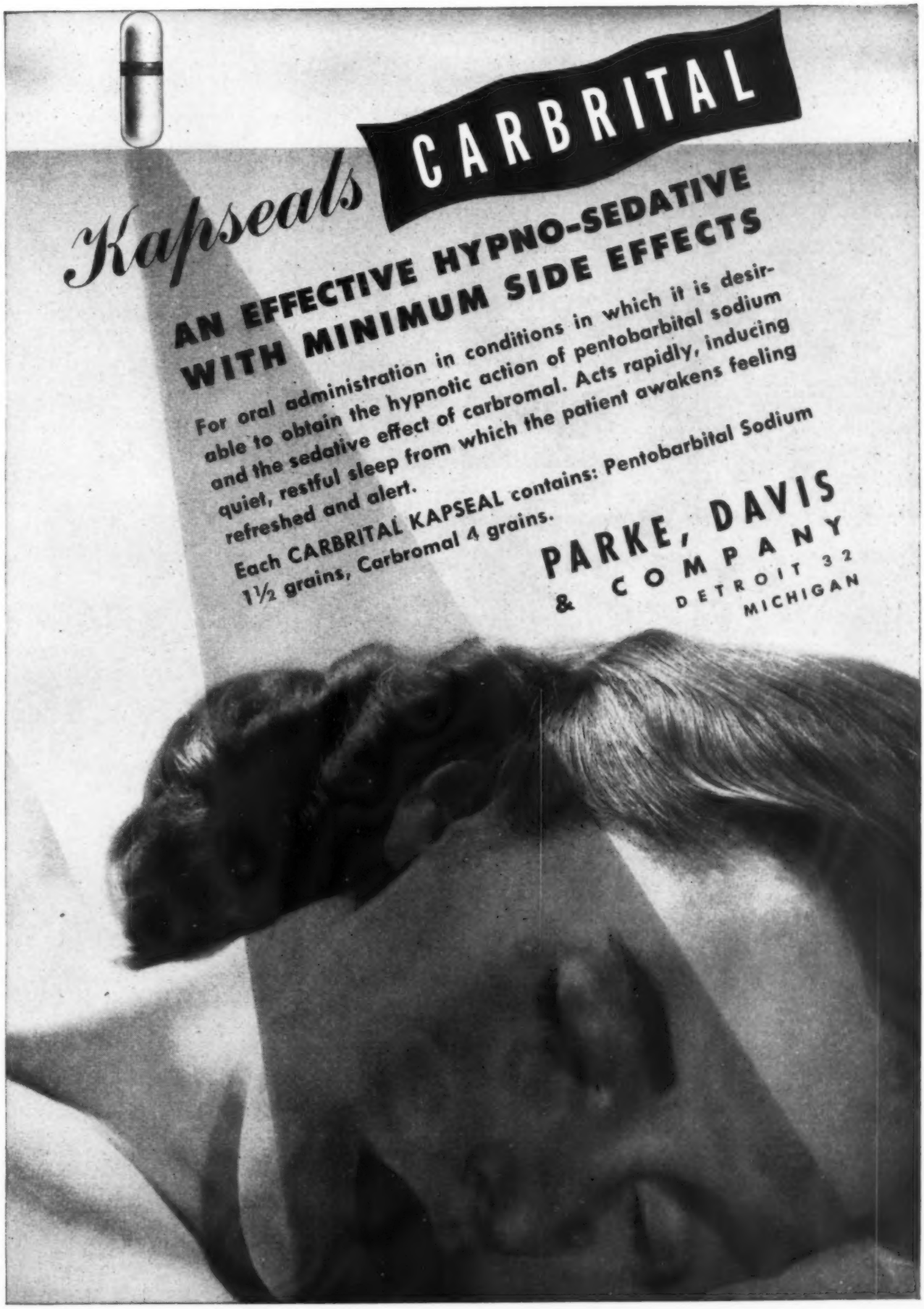
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ACCORDING to the Associated Press, the British Minister of Agriculture has told British farmers that those who fail to cooperate with the government's planned agricultural program run the risk of having their lands confiscated at a "valuation" to be fixed by the government and the government intends to see that the land is "properly farmed, managed, and equipped." It can't happen here? Says you! Have you ever stopped to think about how many government-owned businesses there are already in the good old U.S.A.? Instead of kidding ourselves, let's put an end to a lot of this government-in-business (and in medicine) stuff.

—*Ohio State Med. J.*, March, 1946.

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Scientifically Reduced to LESS than 1%

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SANO cigarettes are a safe way and a sure way to reduce your patient's nicotine intake. Sano provide that substantial reduction in nicotine usually necessary to procure definite physiological improvement. With Sano there is no question about the amount of nicotine elimination. With Sano you encounter none of these variable factors involved in methods which merely attempt to extract nicotine from tobacco smoke. With Sano, the nicotine is actually removed from the tobacco itself. Sano guarantees always less than 1% nicotine content. Yet Sano are a delightful and satisfying smoke.

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Chemical analyses show that pinches of cotton used in cigarette mouth-pieces are entirely ineffective in removing any appreciable amount of nicotine from cigarette smoke.

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TO provide an organization, not for pecuniary profit, in which all agencies and societies, both medical and lay, concerned with the problems of industrial health can hold membership and can meet together in conference for the study, discussion and careful consideration of all industrial health problems and procedure; to engage in scientific research to determine the cause, nature, prevention and cure of diseases and injuries of occupations; to assist in establishing and supervising industrial health clinics to serve small industries; to establish and maintain hospitals which will furnish facilities for the care, treatment and study of occupational injuries and diseases; to make surveys of industrial medical services and recommendations for their improvement; to solicit, receive and administer funds for any purpose that will advance and/or improve industrial health; to establish undergraduate and/or post-graduate courses in industrial medicine and surgery and/or to cooperate with medical schools and industries in maintaining such courses; and to use all those means which from time to time, may seem wise for the advancement of industrial health

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1. Parkes, M., Ind. Med., *14*:565-566, July 1945. 2. Dobbins, T., *Ibid.*, *15*:13, January, 1946.

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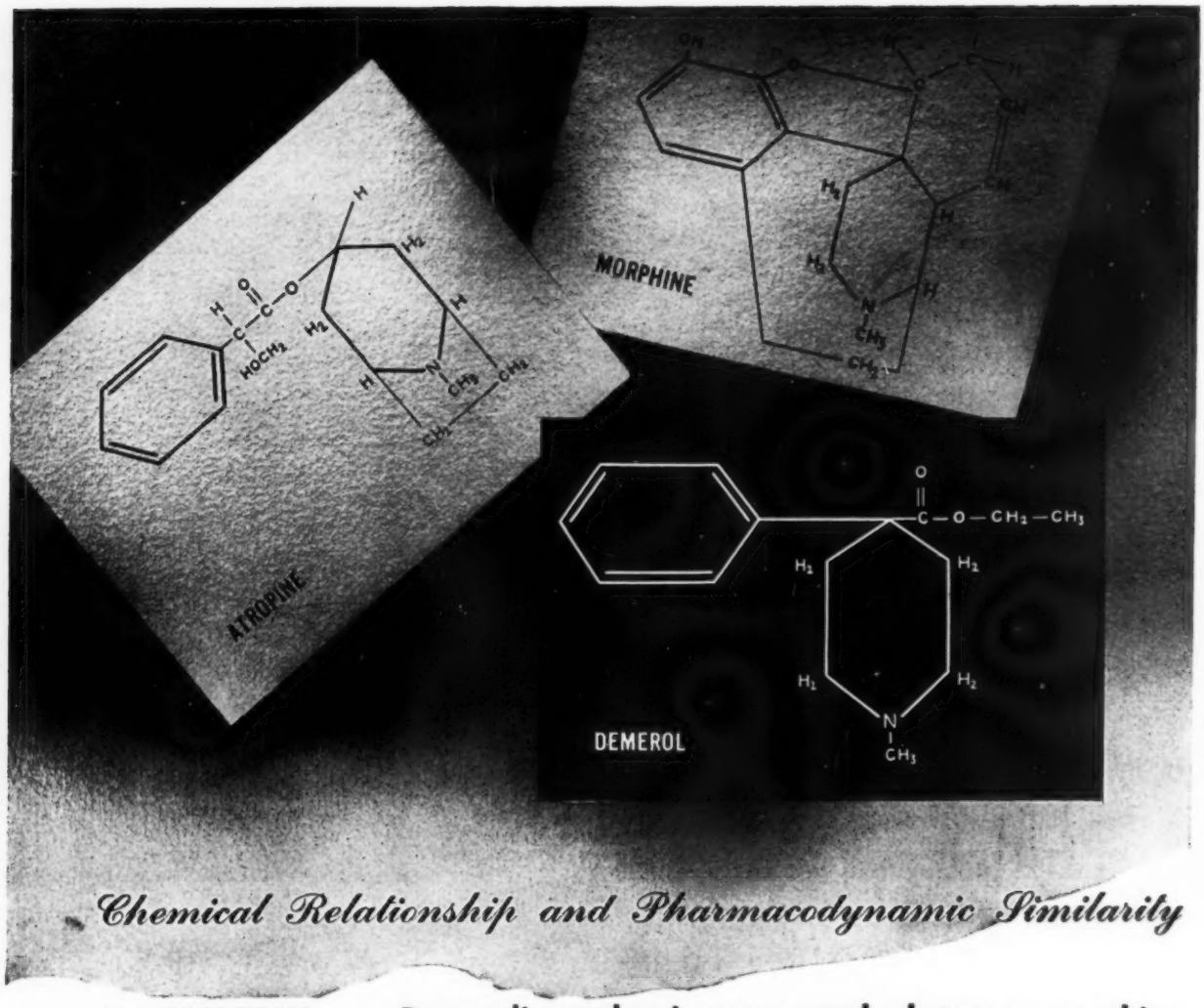

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* *"Chlorophyll Urea Ointment in the Treatment of Burns and Chronic Ulcers." Industrial Medicine, 14:9, 730, September, 1945*

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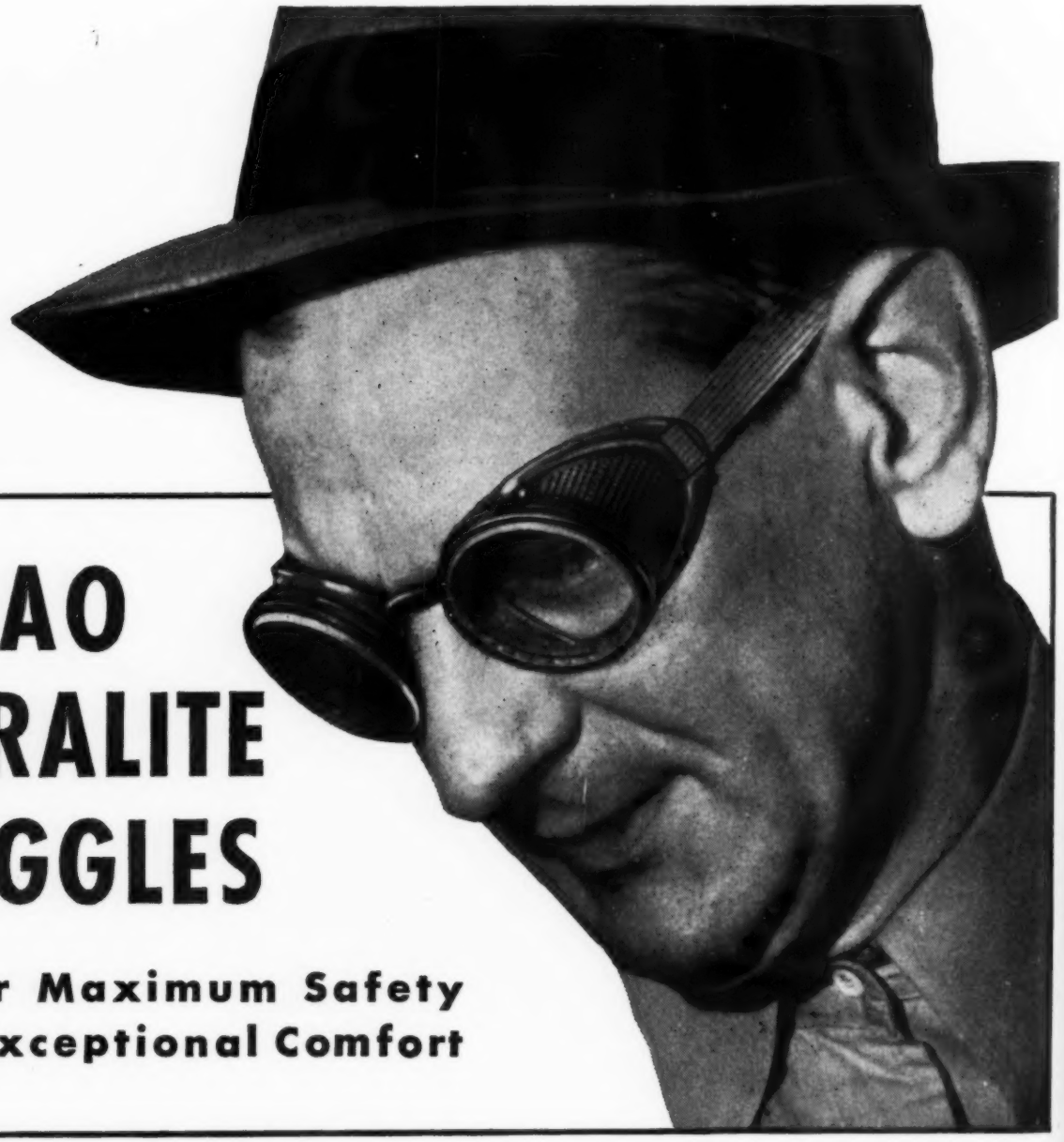

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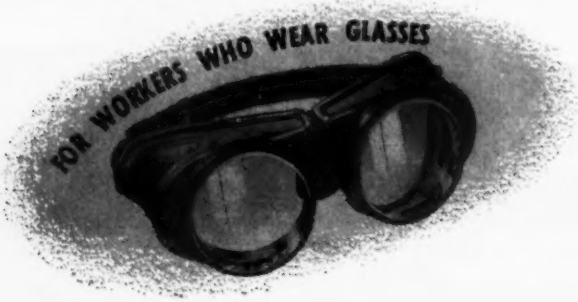

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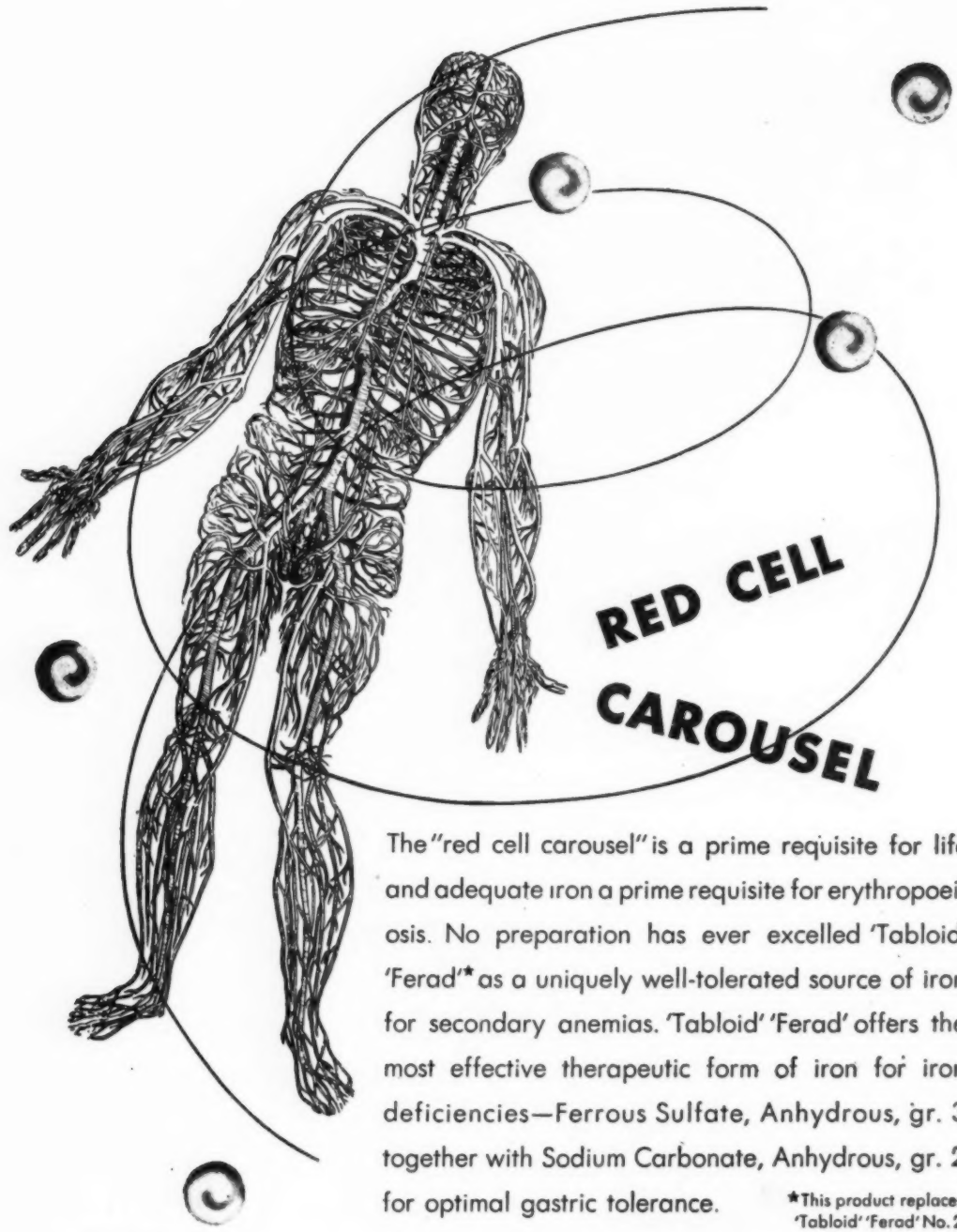

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1. Strakosch, E. A. and Clark, W. G.: Minn. Med., *26*:276-282 (March) 1943.
2. Tsuchiya, H. M., et al.: Proc. Soc. Exper. Biol. and Med., *50*:262-266 (June) 1942.

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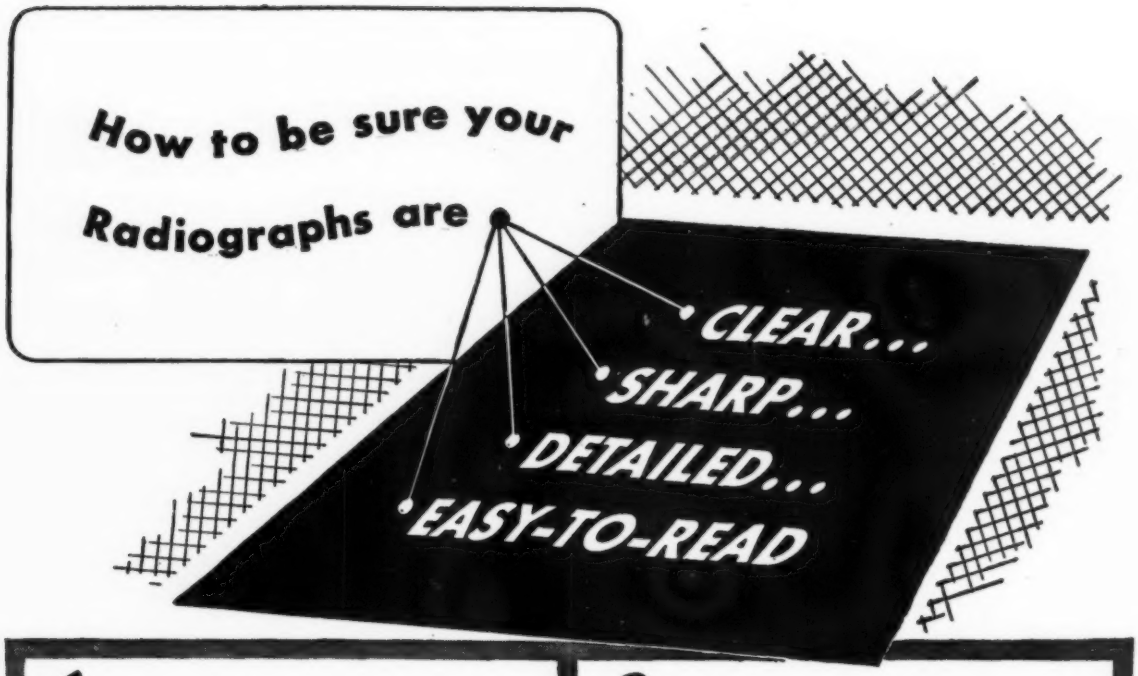

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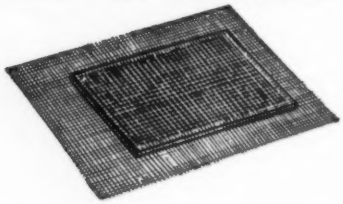

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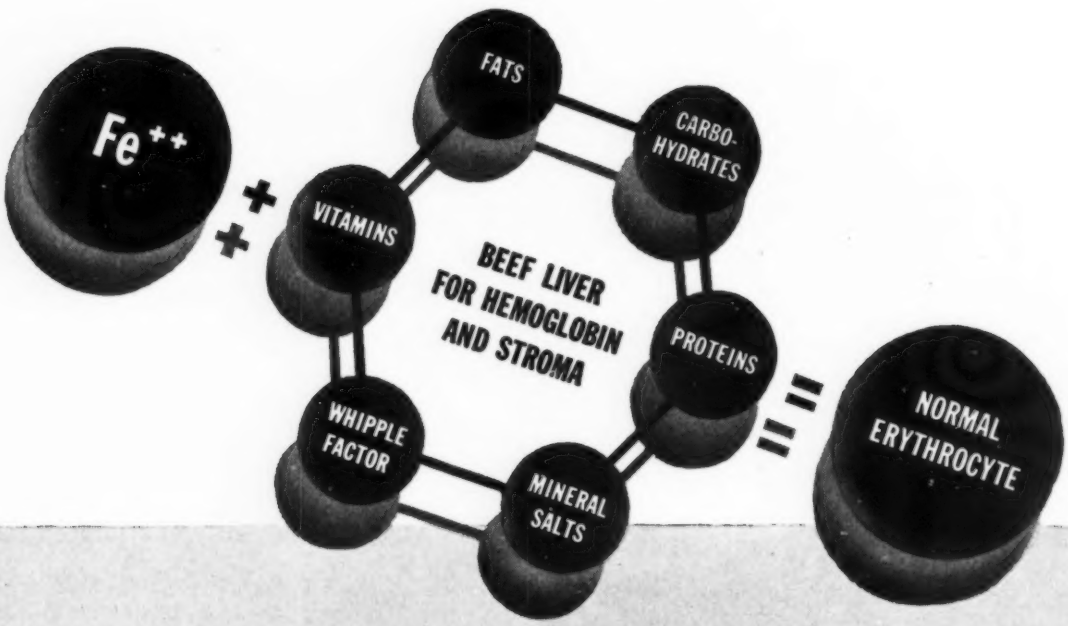

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HEMATINIC PLASTULES* with Liver Concentrate supply dried ferrous sulfate with liver and yeast concentrates. Bottles of 50, 100 and 1000.

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During the years when longer shifts required workers to be on their feet longer hours daily, many manufacturers found WIZARD ARCH BUILDERS, the scientifically designed, all leather, orthopedic appliance the way to reduce foot fatigue and keep up production line morale. WIZARDS use exclusively the patented principle of overlapping, interchangeable inserts, and can be fitted instantly to any type foot.

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Since no field is more subject to the dangers of "glamorizing" and lay "experting," the Institute in all its appeals stresses the necessity of "seeing your physician" as the first step in the improvement of poor body mechanics. Distribution of authentic literature through schools, colleges, medical and government bodies; and industrial, professional and civic public health groups is an important part of the program. Press and radio give serious coverage.

We hope to merit the continued cooperation of the medical profession during the first post-war observance of National Posture Week as peace presents its varied problems to those charged with maintaining the health of the nation.

FREE: These two heavily illustrated booklets on posture prepared especially for distribution by physicians to their patients. Their titles are: "The Human Back . . . its relationship to Posture and Health" and "Blue Prints for Body Balance." Ask for the quantity you need on your professional letterhead. THE SAMUEL HIGBY CAMP INSTITUTE FOR BETTER POSTURE, Empire State Bldg., New York 1, N. Y. Founded by S. H. Camp & Company, Jackson, Mich.

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CANDIES AND THE TREND IN *Nutrition*

SOME few kinds of candy confine their contribution to rapidly available energy. But the majority of candies now marketed and consumed in the United States are really complex confections. In their manufacture many basic food substances are employed — milk, cream, butter, eggs, fruits, nuts, peanuts.

The trend in nutrition is for the use of good quality natural foods in the dietary and inclusion of these in candy helps follow this trend.

Such candies therefore make their appropriate contribution, small as it may be, of good protein, rapidly available carbohydrate, fat, vitamins, and minerals.

THE NUTRITIONAL PLATFORM OF CANDY

1. Candies in general supply high caloric value in small bulk.
2. Sugar supplied by candy requires little digestive effort to yield available energy.
3. Those candies, in the manufacture of which milk, butter, eggs, fruits, nuts, or peanuts are used, to *this extent* also—
   (a) provide biologically adequate proteins and fats rich in the unsaturated fatty acids;
   (b) present appreciable amounts of the important minerals calcium, phosphorus, and iron;
   (c) contribute the niacin, and the small amounts of thiamine and riboflavin, contained in these ingredients.
4. Candies are of high satiety value; eaten after meals, they contribute to the sense of satisfaction and well-being a meal should bring; eaten in moderation between meals, they stave off hunger.
5. Candy is more than a mere source of nutriment—it is a morale builder, a contribution to the joy of living.
6. Candy is unique among all foods in that it shows relatively less tendency to undergo spoilage, chemical or bacterial.

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While any cream may give some degree of protection, West makes a *series* of protective cream formulas because tests have shown that each specific hazard can be more adequately met when the protective cream used is formulated especially for that specific hazard.

There is a WEST Cream to Meet Your Industry's Particular Hazard

Compounded as a quick vanishing cream with sufficient oily residue to form a protective film against *salt solutions, mild alkaline and acid solutions, dust powders and certain irritating vapors*. Being a vanishing cream, it is soothing in application.

A vanishing cream which is generally used as a protection against *dusts, powders, heavy oils, greases*, but is less resistant to water vapors than West Protective Cream No. 11.

Designed to protect the skin against organic solvents such as *kerosene, gasoline, carbon tetrachloride, xylol, lacquer thinners, paints, enamels and lacquers*. Washes from skin readily with soap and water and does not dissolve in the organic solvents. This cream also protects the skin against dusts and certain vapors.

A heavy bodied cream possessing special cleansing ingredients as well as special materials scientifically combined to protect against *certain aqueous* and *alkaline solutions*.

This cream is primarily resistant against aqueous solutions and is recommended against *detergent solutions, alkaline solutions, cutting oils, vapors, dusts*, and such other harmful materials that would ordinarily penetrate through the aforementioned protective creams.

This cream contains Zinc Oxide and Benzoic Acid and is acid in reaction, being recommended against irritating alkaline conditions affecting the skin. While basically it functions as a cold cream, it is more specific for *alkaline conditions* than West Protective Cream No. 44.

Contains a chemical photodesensitizer, and a bland pigment to protect against the action of *Coal Tar Compounds, Petroleums, Tar, Pitch* and like substances, and is a protection against actinic rays when they act as an external irritant in conjunction with the above compounds.

This cream forms a homogeneous reinforced oxidizing film on the surface of the skin as a protection against toxic elements of explosives such as *Tetryl, TNT, DNT, Fulminate of Mercury, Lead Styphnate, Amatol, Dinitrophenol, Lead Azide*, etc.

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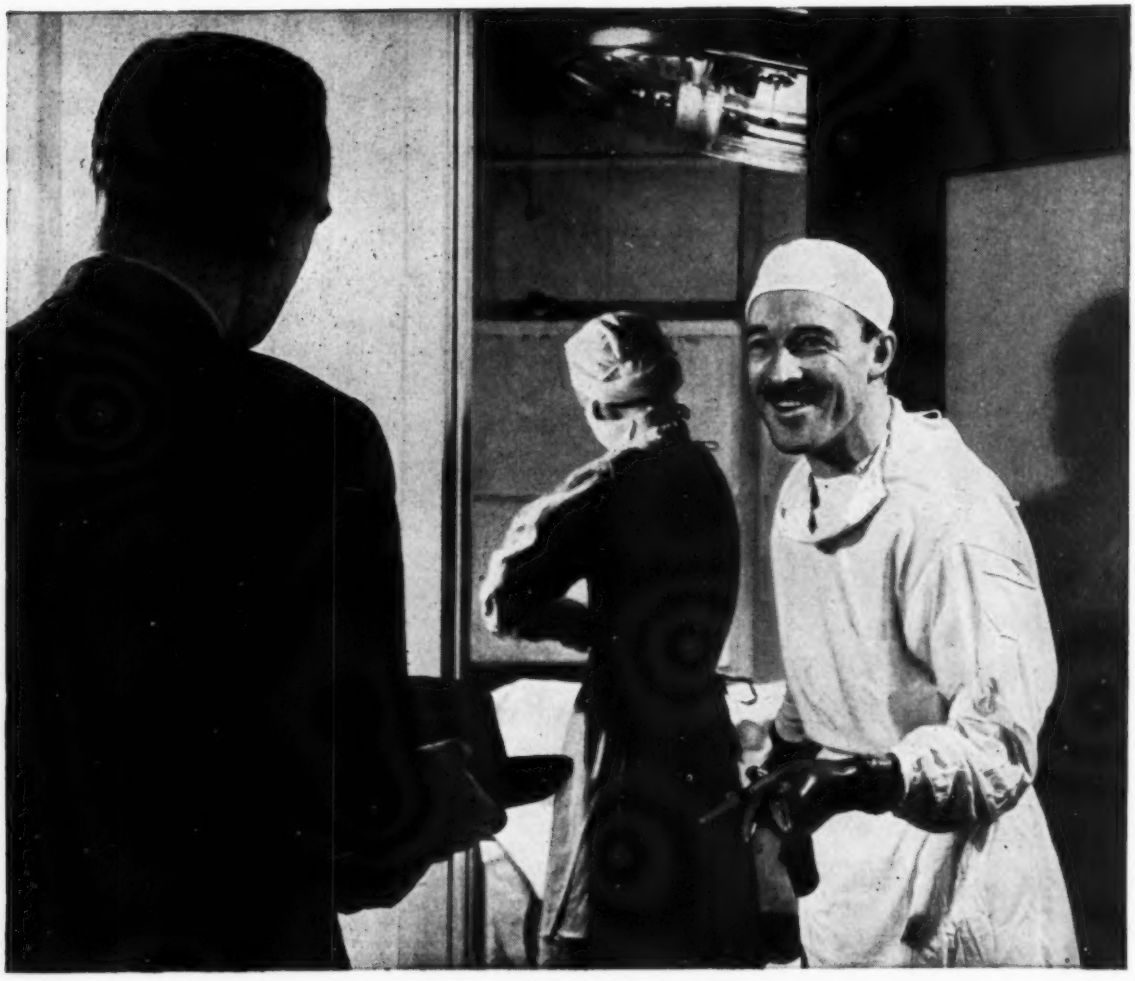

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—and his life expectancy is brighter, and longer by 15 years —thanks to medicine's "men in white"

● Cold figures . . . with a warm, wonderful significance. Yes, the figures on increased life expectancy tell as much as a five-foot shelf of volumes on the amazing strides modern medical science has made in protecting and prolonging human life.

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SUPPLY:
'Veracolate' cholagogue-evacuant*— in bottles of 50 tablets, each tablet containing bile salts (sodium taurocholate and glycocholate), extract cascara sagrada, phenolphthalein, oleoresin capsicum. DOSAGE: 1 tab. t.i.d., or 2 tab. at bedtime.
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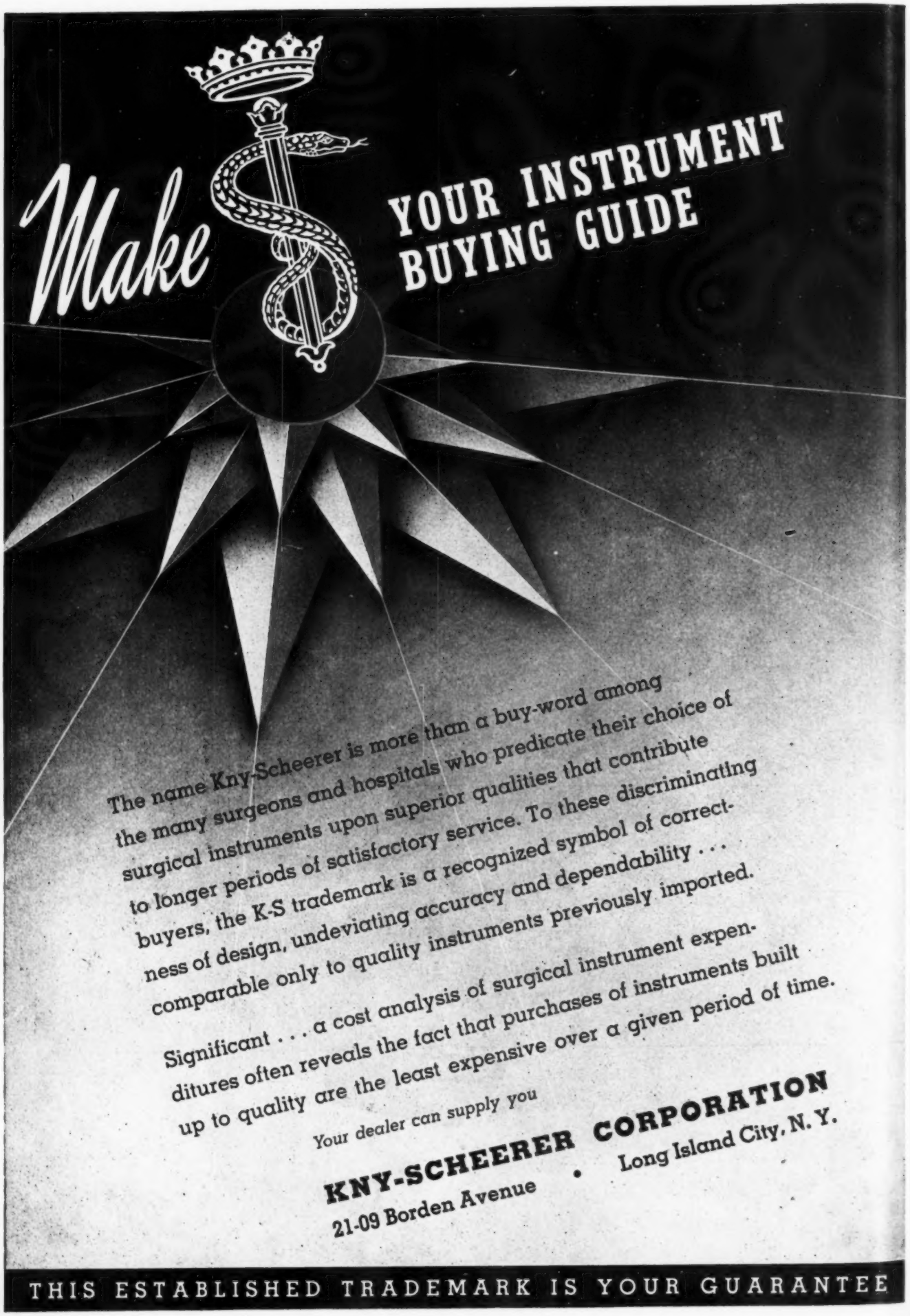
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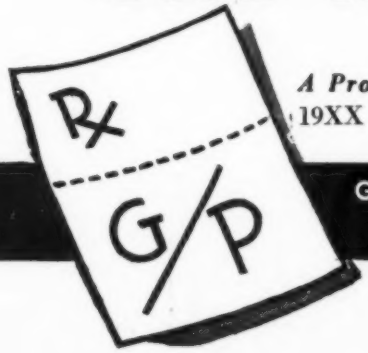
For quick relief for constipated patients, remember SAL HEPATICA.

SAL HEPATICA



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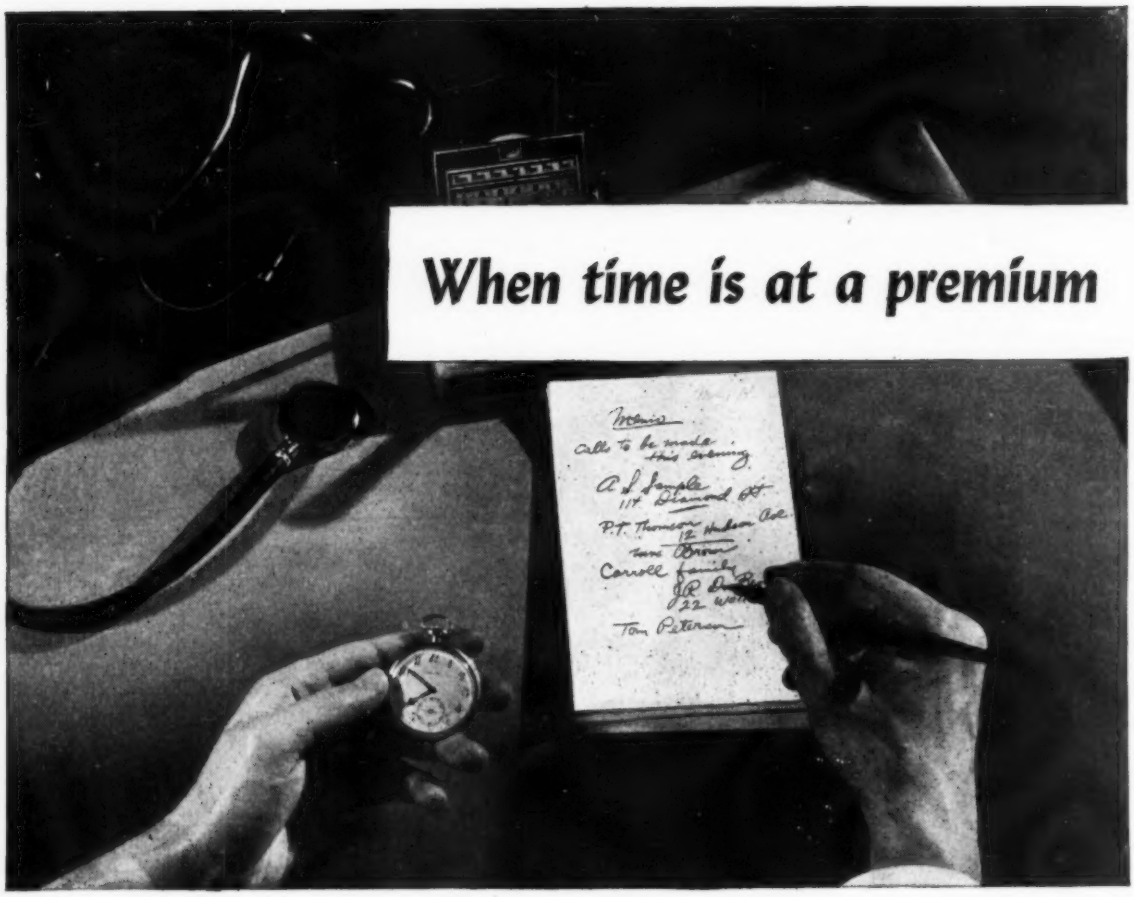

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*Daughtry, DeWitt C.: Cod Liver Oil Ointment in Surgery, Surgery, *18*:510-515 (Oct.) 1945.

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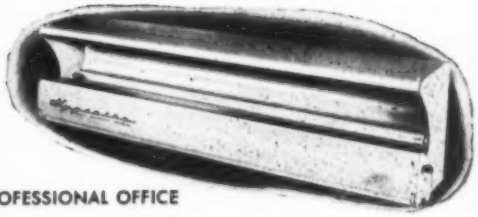

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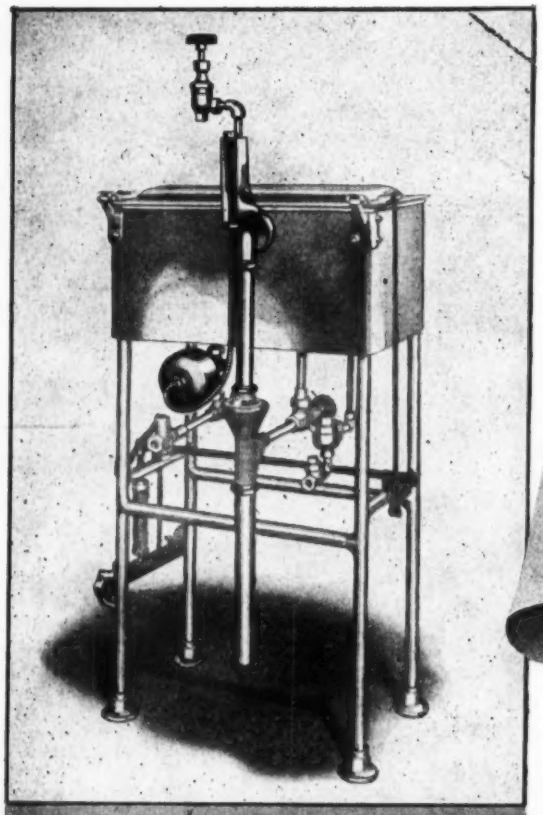

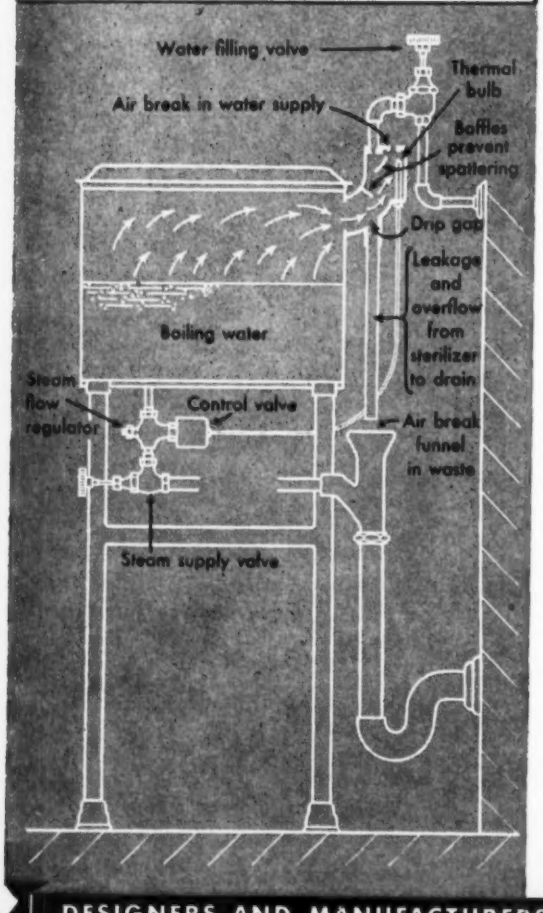

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After water is brought to a boil, heat is automatically cut to rate required to maintain the degree of boiling desired . . . ***eliminates time-consuming supervision to avoid too vigorous boiling.***

Reduces water evaporation to a minimum . . . ***formation of scale on instruments, utensils and in the sterilizer, is dramatically reduced.***

No excess steam to escape in utility rooms . . . ***no resultant damage to walls and ceilings requiring redecoration.***

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*"As a Prophylactic and Therapeutic Agent"**

"There are many opportunities for practical dietary application of the advances in our understanding of protein economy. The provision of liberal protein diets in instances where the value of protein has been demonstrated offers both prophylactic and therapeutic advantages to the patient."

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"Protein is one of the essentials for which there is greater need. . . . The growth needs of the fetus must be met and if adequate dietary protein is not supplied, the mother's protein stores will be drained. . . . The demands for protein during lactation are even greater. . . .

"One further reason for providing a liberal supply of protein . . . lies in the favorable effect which protein has upon calcium absorption. A high-protein intake actually can increase the absorption of calcium severalfold. . . ."

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". . . actual improvement in the well-being of nephritic patients may be observed following the use of high-protein diets both in adults and children. In some instances functional capacity of the kidneys has been reported to improve on such a regime. . . . For the treatment of nephrosis the same dictum holds true, only to a greater extent. . . ."

DISEASES OF THE LIVER

"For many years carbohydrate alone has been considered the one substance capable of providing protection for the liver cells . . . . Protein has now been shown to be considerably more effective in this respect . . . . The effect of protein on the liver is not only reparative, but also definitely protective against the agents known to be toxic to the liver. . . ."

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". . . a rather high incidence of moderate hypoproteinemia in peptic ulcer cases has been reported. This may be a causal effect of inadequate dietary buffering of the strongly acid gastric secretion, or it may result from the insufficient quantities of protein supplied by the limited diets used in ulcer treatment. . . . Any ulcer, be it peptic, infectious, or the result of pressure and circulatory changes, represents a loss of tissue and requires protein for rebuilding...."

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"There are other medical conditions in which too little attention is often given to maintaining proper levels of protein nutrition. . . . In old age, for instance, all too often the food intake deteriorates to soft foods of limited variety. . . . Yet in such instances the same protein requirements for maintenance of the numerous body functions are still in effect. . . . An example of excessive alimentary loss of protein is seen in all types of chronic colitis, losses which must be replaced if the body is to be kept at high levels of efficiency. Protein may also be lost because of its excessive breakdown under the influence of fever or heightened body metabolism, and negative nitrogen balances may develop, as for instance in hyperthyroidism. . . .

"With the demonstration of this increased importance of protein dietetic therapy, it can only be recommended that there be an increased use of high-protein diets."

Among the protein foods of man meat ranks high not only because of the percentage of protein contained, but primarily because the protein of meat is of high biologic quality, applicable for every protein need.

*Anderson, Geo. K., M.D.: *The Importance of Protein in Diet Therapy,* J. Am. Dietet. A. 21:436 (July-August) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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AMERICAN MEAT INSTITUTE

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IS DIFFERENT FROM

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Therapeutically, Ertron is different from any other antiarthritic. Many patients in large series of clinical studies have experienced restoration of movement in affected joints, relief of pain and measurable evidence of reduced swelling. Comprehensive published works are evidence of established therapeutic action.

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It can now be said that chemically, too, Ertron is unique. Ertron differs in chemical composition from the ordinary vitamin D preparations—a fact that undoubtedly accounts for the excellent results obtained with Ertron.

Simply stated, Ertron is electrically activated vaporized ergosterol prepared by the Whittier Process. Each capsule contains 5 mg. of activation-products having a potency of not less than 50,000 U.S.P. Units of vitamin D.

Ertron contains a number of hitherto unrecognized factors which are members of the steroid group. The isolation and identification of these substances in pure chemical form further establish the chemical as well as the therapeutic uniqueness of Ertron.

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Physician control of the arthritic patient is essential for optimum effect. To Ertronize employ Ertron in adequate daily dosage over a sufficiently long period to produce beneficial results. If signs of overdosage appear, discontinue medication for about ten days—then continue with three capsules per day gradually building up to the patient's level of tolerance.

Ertron is the registered trade-mark of Nutrition Research Laboratories

SUPPLIED IN BOTTLES OF 50, 100 AND 500 CAPSULES

Parenteral for supplementary intramuscular injection

Ethically promoted

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Each vial of Solu-B contains:			
Thiamine Hydrochloride	10 mg.	Pyridoxine Hydrochloride	5 mg.
Riboflavin	10 mg.	Calcium Pantothenate	50 mg.
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*Trademark Reg. U. S. Pat. Off.

1. J. A. M. A. 129:74 (Sept. 1) 1945

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FINE PHARMACEUTICALS SINCE 1886

Available in packages of 5 (10 cc.) vials with 5 (5 cc.) ampoules sterile water, and in packages of 25 vials without diluent.

Solu·B

FOR ACCURACY

IN DUST COUNTING—

The M.S.A. MIDGET IMPINGER

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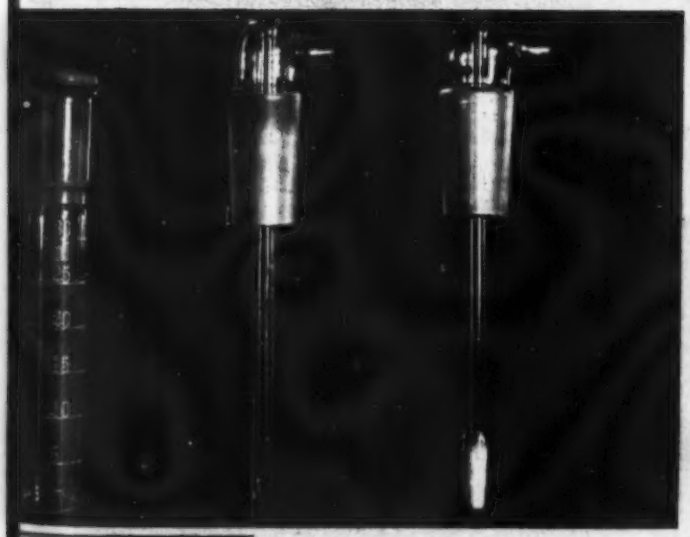
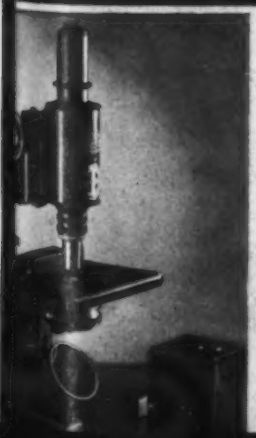


The widely-employed M.S.A. Midget Impinger is in valuable in survey work because of its precisely-checked components, which enable reproducible results. Each piece is individually examined and calibrated before assembly by actual flow meter tests in which all nozzles are limited to a variance of not more than 4% from the required flow of 1/10 cu. ft. per minute at 12" of water suction. Every factor is made constant by M.S.A. laboratory control, assuring the technician of *equipment dependability* in his measurement of hazards.

M.S.A. Dust Counting Microscope

Specially designed for dust counting, this quality instrument has a draw tube set and locked, after laboratory check, at exactly 100x magnification.



Standard rubber-stoppered impinger tube and the new all-glass impinger tube—both carefully checked for correct flow.

Above: M.S.A. Dust Counting Cell, checked for 1 mm depth. Left: M.S.A. Dust Counting Microscope.

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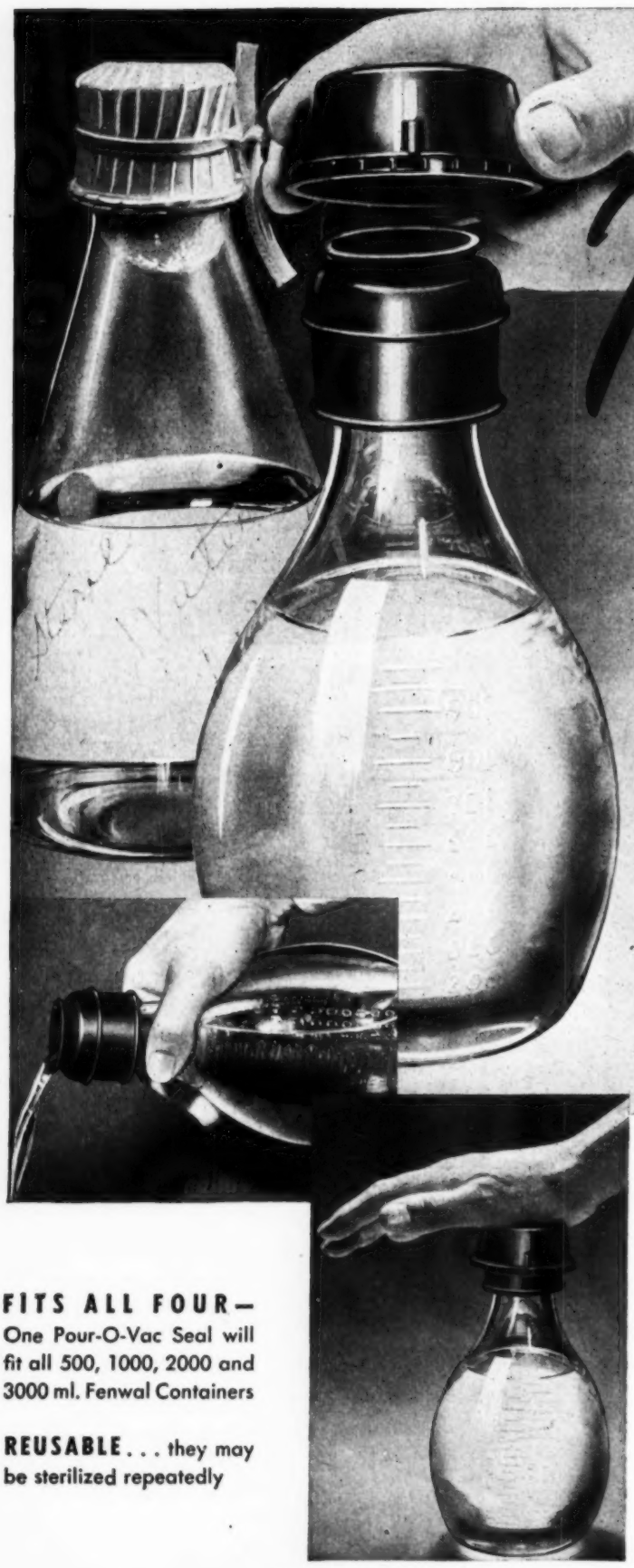

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FITS ALL FOUR—
One Pour-O-Vac Seal will fit all 500, 1000, 2000 and 3000 ml. Fenwal Containers

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The Burdick Z-70 Zoalite offers a small, light-weight infra-red unit, inexpensive to own and operate. Many physicians who have a larger Zoalite also have a Z-70 for emergency use, and for use in the patient's home. Particularly meets the needs of the industrial plant first-aid room. Council-accepted.

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Z-70 ZOALITE

Patented single-bar, non-metallic element; 220 watts. Reflector gives even diffusion without hot spots. Telescopic stand; adjustable lamp.

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Along with liver-stomach concentrate, 'Lextron' and 'Lextron Ferrous' contain adequate amounts of iron salts and a rich supply of vitamin B_1 and vitamin B_2, with other factors of the vitamin B_2 complex. Clinically standardized 'Lextron' and 'Lextron Ferrous,' designed especially for physicians' prescriptions, are available at leading drug stores everywhere.

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This magazine is published to promote sound thought upon and concerning industrial medicine and traumatic surgery. To that end it will contain articles, news items, reports, digests, and other presentations, together with editors' comments. The editorial policy is to encourage frank discussion. On this basis contributions are invited.

Industrial Medicine

Reg U S. Pat. Off.

The editors will exercise care in checking on the accuracy of data printed but in all other respects articles and opinions of which expression is allowed are the opinions of their authors—the editors reserving in all cases the right to comment on the same in the current or any subsequent issues as they may be inclined.

The Journal of Industrial Health, Occupational Medicine and Traumatic Surgery

With which are consolidated "The Industrial Doctor" and "International Journal of Medicine and Surgery."

The Science, the Law and the Economics of Industrial Health

Volume 15 April, 1946 Number 4

Industrial Psychiatry in the Community of Oak Ridge

CHRISTOPHER LEGGO, M.D.,
Medical Director,
Clinton Engineer Works-Tennessee Eastman Corporation,
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Clinton Engineer Works-Tennessee Eastman Corporation,
Oak Ridge, Tennessee,
and
ERIC KENT CLARKE, M.D.,
Minneapolis, Minnesota,
Formerly Director of Psychiatry, Oak Ridge Hospital

THE community at Oak Ridge, Tennessee, which grew up about the plants developing the atomic bomb, presented all the problems of other war-created cities with many additional ones superimposed. From its beginning, the development was surrounded with absolute secrecy. Few of those who worked on the project knew what was being done until they, with the rest of the world, learned it over the radio on the memorable morning the first atomic bomb was dropped on Hiroshima. Prior to that moment all they had been told was that the work was of utmost importance to the war effort and that it demanded complete secrecy and required large numbers of workers.

When the spotlight of publicity was finally turned on Oak Ridge, there was much revealed which was of general interest to the public at large. There will be much described over the years to come of interest to special groups, among whom will be physicians and others interested in medical care. We have selected the psychiatric problems and the attempts to meet them as an appropriate subject for presentation at this time. Because the community was purely an industrial one, it offered a strategic observation post for the study of the relationships and the correlation between living environment and the working environment. Since the over-all picture of the community must be described in order that the reader may understand the background, we solicit his indulgence if the early part of the article does not appear to be, at first sight, pertinent to the title.

Unlike most other communities which mushroomed during the war, Oak Ridge started from scratch. In other towns war workers had to keep only their work secret. In Oak Ridge, not only their work but the very existence of the town itself was a secret. The history of its growth would be fascinating, but it cannot be incorporated in this article, which deals with it as it was in the winter of 1945 and subsequently.

Ninety-two square miles of hilly farmland in the foothills of the Cumberland Mountains 20 miles from Knoxville were selected as the site of the project. While this location supplied the isolation necessary for security reasons, it was also accessible to the abundant electric power of the T.V.A. systems. The amazed farmers and residents of the few tiny settlements in the area were paid off and moved out from the area. Barbed-wire barricades were erected and entrance and exit permitted only at a few heavily guarded gates under an elaborate pass system fortified by close scrutiny and search. Those who did gain admittance had free access only to the residential and commercial districts of the Townsite. All other sites within the large area were protected by another row of barricades and guards. Within 18 months, three plants had been brought into production and the population of the town had grown to 75,000. An occasional fruit tree escaped destruction by the bull-dozers; a few farm houses, converted to other use, stood out conspicuously. These, and several isolated graveyards were the only reminders that the whole area had recently been a farming section.

The townsite itself occupied an area roughly eight miles long and two miles wide within the large area. The houses, apartments, dormitories and trailers at the lower edge were spread along a flat valley. The construction extended up hillsides within an increasing elevation until the houses at the upper edge were perched on hilltops. Many of those at higher elevations had the advantage of being set in the woods.

The first housing built consisted of dormitories and a semi-permanent type of dwelling, but the terrific demands for shelter resulted finally in the construction of large numbers of pre-fabricated houses, trailers, temporary hutments and barracks. Small shopping centers were created at various convenient locations so that each resident had reasonable access to a store,

a drug store, and a barber shop. Schools and fire halls were similarly distributed. Recreation centers were also scattered, and through a weekly newspaper distributed only to those on the area, the activities of numerous clubs devoted to various entertainments or hobbies were promoted. The water supply, the sewage disposal and the distribution of electric power each represented a huge undertaking, although this was probably never fully appreciated by the residents who took such services for granted. The efforts to meet the enormous transportation problem were more obvious.

Regular scheduled bus lines ran on routes throughout the town. Others ran from the townsite to the plants, the closest of which was three miles away and the farthest 16. Upwards of 10,000 employees had to be transported for each of the three shifts, as well as the great many others who worked "straight" days. In spite of the extent of the housing facilities, the accommodations were still inadequate, so there were still 20,000 to 30,000 employees living off the area within a radius of 60 miles who commuted daily.

Food supplies were difficult, as the size of the population could not be divulged for security reasons, and there was no established quota for a market which had not previously existed. Population grew more rapidly than stores could be developed and it was difficult to anticipate ahead to order adequate stocks. Scarcity of clerical help behind the counters made service slow. Long lines and interminable waiting were the order of the day—at the shops, the post office, the cafeterias, the movies, bus stops and banks. Sidewalks and hard-surfaced roads were rare. Dry weather brought dust; chemicals to lay the dust corroded the running gear of the motor cars. Wet weather brought mud. Soft coal created soot. Housekeeping demanded constant and thankless attention. Automobile repair service was inadequate.

While every effort was made to create satisfactory facilities, rapid expansion made it impossible to keep pace with demand. This ruggedness made living strenuous for the families of workers, particularly mothers with young children. Full-time maid service was non-existent; part-time day help expensive. Oak Ridge is a community with a scarcity of grandmothers. Women without full-time responsibility at home found employment, and many young mothers took advantage of the opportunity to work by using the Nursery Schools organized to care for children during the mothers' absence. As many of these mothers worked on rotating shifts, one Nursery School functioned on a 24-hour basis seven days a week.

A school system to provide for upwards of 10,000 pupils was created. Five nursery schools, seven large grade and one 1200-pupil high school were a large undertaking at a time when teachers were scarce. The teachers were drawn from a wide territory and from varied backgrounds, experience and philosophies. Buildings were still under construction or expansion. The teachers had to develop teamwork and work out their new programs. The pupils came from all over the country and, since there were some new arrivals daily, continuity of class work was extremely difficult. Many of the children of the scientific group had attended outstanding progressive schools in the North and East and others came from the one-room mountain schools. Many of the children had transferred from two to six times in a short period. Emotional as well as educational problems were a natural expectancy.

Life for the 12,000 housed in dormitories was not easy. It was assumed that the dormitories would offer a modified hotel service, providing impersonal but comfortable living conditions within a minimum of supervision of the residents. At first the dormitories functioned well, as the original group, mature individuals chosen for specific jobs, made an easy adjustment to the limitations of a raw community. Later large numbers of younger residents arrived. Many were immature, away from home for the first time and unprepared to handle the new-found freedom judiciously. Some found the hustle and bustle and the impersonality disturbing and were frightened, insecure and homesick. Those with sufficient internal resources and maturity easily made friends and learned to use the many recreational facilities offered. Others, suddenly finding freedom from the restraining influences of their community, went to extremes. Alcoholism, an occasional illegitimate pregnancy, pilfering and gambling were naturally to be expected. Some homosexual activity in both the men's and women's dormitory groups was encountered.

Although there was a reluctance to do anything which might appear to interfere with personal liberty, it was soon apparent that some system of dormitory counseling was necessary. It could not be identical to that used in colleges, as this was supposedly a mature and independent group who would resent supervision. The large number of terminations among dormitory residents, who had been imported at considerable expense to fill essential jobs, however, made action imperative. It was felt that the appointment of dormitory counselors who would be available to those who sought assistance could be a partial solution for those having difficulty accepting or tolerating the new life. Each new arrival was greeted soon after assignment to dormitory space to help orient the newcomers to the various facilities. Rapid sizing-up of the newcomer by experienced counselors usually established an expectation of those who would prove self-sufficient and those who would need some assistance in making new friends, staving off homesickness and discouragement until they could be acclimated. At the same time, the counselors could exercise a moderate degree of control over the non-conformist, prevent the innocents from being victimized by the sophisticates, see that those with transitory illness were fed and the seriously ill given proper medical care. In the face of shortage of trained personnel, counselors were assigned only to the newer women's dormitories.

No attempt was made for a similar service in the men's dormitories as it was felt the majority of the residents were self-sufficient. Alcoholism and gambling were the major sources of complaint, and there were frequent rumors that large sums of money changed hands.

The nine large trailer camps, each with several hundred units, presented many problems of crowded living conditions, physical discomfort and inconvenience. The early trailer residents were construction workers to whom trailer life was an old story. Later arrivals found the life strenuous and disagreeable. High wages were new to many who could now earn as much in a day as formerly they had in a week, as many had not previously worked in industry. Those with natural habits of thrift saved carefully, realizing that for them the period of high wages would be transitory; others lost their sense of proportion and were spendthrifts. Drinking, gambling, immorality and other unconventional patterns cropped up. There were probably more expensive motor cars in the trailer camps than in any other residential district on the reservation.

A few generalizations might be made at this point

in regard to the over-all psychiatric effect of the living and working conditions. The multiplicity of security safeguards emphasized to the men and to the women who were working the importance of their war contribution and acted as a stabilizing influence except on those who had paranoid tendencies. The paranoid personality viewed the frequent inspections and need for identification as being aimed at him personally and, consequently, the trigger mechanism of his underlying pattern was likely to become excited and result in a breakdown. For the women who were not working, two patterns were evident. The young housewife whose social activity would be limited because of her young children was relatively very comfortable. In many cases the housing was more adequate than that which would have been available in her original community and she was able to find social companionship among her neighbors, most of whom had come from different parts of the country and whose needs paralleled her own. The fact that her young husband might have been exempted from the draft and was not separated from her also was an added cause of comfort.

On the other hand, there were many men whose scientific or professional background had been so well established in their own communities that they had maintained a household on a social and economic scale which could not be met in Oak Ridge. Since their capacities were used to the fullest extent and they realized the full significance of their service, they were occupationally very happy. Their wives, many for the first time, could not share with them even the smallest corner of their professional activity. Barriers against their learning anything of any importance were deliberately constructed, and the social advantages, which might have compensated for this slight, were inadequate. As the result, tensions on both the husbands and wives in this category were conspicuous and led, in a number of cases, to either a unilateral or bilateral emotional problem.

The medical care for the community was supplied by the Oak Ridge Hospital which had both in-patient and out-patient facilities and dispatched physicians when necessary for house calls. The medical staff, with the exception of two of the five psychiatrists, were all commissioned officers in the Army, and the majority held university faculty connections in their previous communities. The nursing and other personnel were civilians and were recruited from all parts of the country.

An interesting pre-payment plan for medical care existed and, by and large, the needs of the very unusual community were quite adequately met. As a matter of fact the statistics of the Oak Ridge Hospital compare extremely favorably with hospitals in older and better established communities. Some idea of the activities of the hospital service can be gathered from the fact that delivery cases alone numbered over 100 per month for a number of consecutive months.

Each of the larger production plants had its own civilian medical and nursing staff and followed the generally accepted pattern of industrial medical practice. Treatment for any involved or complicated non-occupational condition was not undertaken at the plant, but many man-days were saved by rendering reasonable first aid and advice for non-occupational conditions. Because of the geographical distribution of employees' homes, and because the distances commuted daily were so great, this type of service was an important factor in keeping down absenteeism and seemed to more than justify itself. Pre-employment physical examination and periodic examinations were carried out when indicated, and very adequate industrial hygiene programs were instituted and maintained. Unfounded rumors of health hazards, however, did cause anxieties. A valuable contribution was made by the intelligence officers in tracing and quieting such false reports.

The creation of the industrial plants involved many complexities. For purposes of security not only was each industry compartmentalized from each other, but, by a complicated pass system, the workers were compartmentalized within their own plant so that few, except the top administrative group, possessed more information than the minimum necessary for them to accomplish their work.

By the time the project had started, labor was already spread thin throughout the country, and the filling of personnel needs of any level was an almost impossible task. All executives and supervisors worked under terrific tension and for hours which would never have been contemplated in peace time. Supervisors and foremen selected primarily for technical knowledge lacked the maturity usually acquired only through years of experience in industry. This was an even more difficult problem since the majority of the process workers were obtained from the surrounding territory where little industry had existed previously. The applicants varied greatly in background, experience, and intelligence. Many, particularly the women, had never worked before, others were from farms, while some came from highly industrialized areas of the East and North. From the early days it was not a matter of hiring workers for specific jobs, but, in the face of rapid expansion in many directions, all applicants who could pass military security requirements were hired and placed where their potential abilities could be used to greatest advantage.

One over-all effect of the general ignorance of the purpose of the project was the rather humorous bafflement shared by the bulk of residents and employees over the large quantities of materials which poured into Oak Ridge but the conspicuous absence of any visible product being shipped out.

THE demand for some type of psychiatric assistance was felt early when it became obvious that community problems, which greatly affected the physical and mental well being of the imported workers, had an important bearing on industrial production. The demand originated with the industrial and the hospital physicians because of the high incidence of anxiety states and neurotic manifestations. It originally had been assumed that a relief department would not be necessary since everyone on the reservation had an ample income, shelter and other material resources, even though these latter might still be in elementary form. In this circumscribed community, family welfare assumed great significance, but recognition of the need for social work was slow to develop.

In the absence of other social agencies, traditional in all organized communities, the psychiatric service rapidly was forced into the management of many community problems. Assistance was sought by both the industrial plants and by the community through its hospital service, school and police systems, and other organizations. In the space of a few months the psychiatric service expanded from one to five full-time psychiatrists and four psychiatric social workers.

From the earliest days of the psychiatric service, it was apparent the program would fall into three divisions of the work:

(a) *The hospital service*—both in-patient and out-

patient facilities for those already showing evidence of breakdown.

(b) *The community service*—such as child guidance in the schools, juvenile court and family counseling to the distraught non-employed dependents of workers, and

(c) *A program* to prevent mental breakdowns within the plants, by detection and early treatment.

The need for this third phase was increasingly apparent as the number of workers increased who had been rejected at the Induction Stations or discharged from the services for neuropsychiatric reasons.

The (a) hospital, and the (b) community, services developed simultaneously and considerably earlier than did the third phase. Staff limitations permitted only a superficial service to meet emergency needs in the beginning; each facet of the program being strengthened as additional staff became available. The hospital needs placed emphasis on the outpatient service, which for some months proved moderately adequate. For many months only an occasional major psychotic was encountered. This is difficult to explain. Whether the careful appraisal of all new employees by the Military Intelligence Service ruled out the obviously psychotic or the rapid termination of those incapable of production work and their elimination from the community was the reason is a matter of conjecture.

The acute psychoses that were encountered in the early days were either recurrent episodes in patients in a period of remission or acute flare-ups of schizophrenia, maniac outbursts or an occasional post-partum psychosis. The recurrent episodes in the discharged veterans group were returned to Veterans or other Military institutions; the civilians to the proper state or private hospital. Later a psychiatric ward was developed in the hospital, with an official 14-bed capacity, although there was usually an overflow of ambulatory neurotic patients into adjoining medical wards. As a general rule, only those psychotics whose reactions indicated some expectancy of rapid recovery were retained. There was, however, a small group who had had access to strategic scientific data, and it was essential that they remain on the reservation for security reasons.

The conventional types of shock therapy were used extensively with good results. Staff shortage forced wide use of group therapy which will be discussed in detail later in the report. The majority of the patients studied on the psychiatric ward had severe reactions, acute anxiety states, compulsive and hysterical patterns. Hospitalization for this group was more liberal than in an ordinary community because life in the dormitories and the limited living conditions in trailers and temporary housing had many handicaps.

This experiment demonstrated interesting results, for, with the stigma so often attached to psychiatric wards removed, group life supplemented by group therapy usually brought more rapid progress than would be expected in this type of illness. The experience gained in this phase of the program offers the greatest promise for realignment of many existing concepts of psychiatric treatment for the great mass of psychoneurotics. It has demonstrated the need for hospital facilities with greater freedom than the usual psychopathic ward, with its necessary restrictions, offers.

The out-patient psychiatric service was from the beginning the major division of the program. Consistently over 60% of those referred came from other physicians either in the various departments of the hospital or the industrial plants. These were predominantly various types of neuroses, accentuated by the pressure of the schedule, the rugged type of living and the insecurity of the situation, and the other circumstances already referred to which accentuated their dormant potentialities. Those with mildly paranoid tendencies found much to increase their suspiciousness. Rumors of physical hazard, no matter how unfounded, made easy the capitalization and accentuation of psychosomatic complaints and symptoms. In the executive group, working under pressure, with heavy responsibility, exhaustion patterns that closely resembled battle fatigue encountered overseas, appeared. Turbulent working and living conditions often found expression in physical complaints which were obviously outgrowths of disturbed emotions.

The close integration within the hospital made medical and psychiatric cooperative service more productive than is customary in the management of such syndromes as vague gastro-intestinal upset and gastric ulcer, paroxysmal tachycardia, hypertension, dysmenorrhea and marital discord. The Medical, Pediatric and Gynecological Services were the major sources of referral. A combination of individual and group therapy was the favored form of treatment.

Careful analysis of the data concerning those referred by the industrial plants reveals several significant points. In one group of 35 cases, 18 were handled as "brief contacts," three or less clinic visits. Of these, seven were classified as unsuitable for continued employment, three were committed to mental hospitals, two were chronic alcoholics and two cases of major hysteria with conversion symptoms. The others were referred to Personnel Division for change of assignment. Two who had recently been discharged from State Hospital, were recommended for continued employment with periodic re-checks. Three others whose difficulties were outgrowths of family dissension were referred to Social Service and the remainder did not require further contact, beyond the initial interview.

Of the 17 listed as long service cases, six continued treatment and remained on the job. In only two of these did the psychiatrist consider the treatment process complete, although the other four did better and completely satisfactory work in spite of the unresolved residuals of the neurosis. This finding is useful from an industrial angle. Individual productivity is the indicator of employability as long as symptoms or behavior do not interfere with efficiency or regularity on the job. The remaining 11 did not complete the treatment as planned. Three of these were unwilling to accept their symptoms as being of psychogenic origin, and three became discouraged and left the reservation. The remaining five did not keep their appointments, and could not be satisfactorily traced.

Much of the success of this group referred by the Industrial Plant Division depended upon the adequacy of preparation of the patient to the Psychiatric Service. Where there was adequate interpretation of what was to be expected, the psychiatric treatment program proceeded more quickly and easily than where the patient had been hoodwinked into coming. The most satisfactory results were obtained in the self-initiated referrals. All suggestion to camouflage the psychiatrist by using some more vague synonym was discouraged. We believe this policy has proved to be sound. Successes among the civilian patients had resulted in a considerable decrease in resistance to seeing a "psychiatrist," and the veterans had encountered psychiatrists so frequently that they approached another one without reservation.

Another comparable, though slightly smaller, group

of employed persons who were referred to the psychiatric department from other departments of the hospital showed somewhat better results of treatment than those coming directly from the plants. It is probable that the patient was better prepared for the transition to another service in the hospital than was possible from the plant to the psychiatric service. In one group of 24 referrals from within the hospital, eight required "brief contact," five were psychotic and arrangements were made for transfer, and in others a single interview sufficed. Of the 16 listed for continued treatment, seven successfully completed treatment, one discontinued contacts before completion but made a satisfactory adjustment on the job, three terminated during the treatment and five discontinued treatment and were not followed. Four of the seven who completed treatment were self-referrals. Of those lost during treatment, some were terminated for such causes as alcoholism, excessive absenteeism and inefficiency, for, in spite of what psychiatry might offer, the productivity of the worker on the job did not justify continued employment.

It was often difficult to accept that the production program was primary and individual welfare secondary. There was no room in the community for those who were unproductive. The high incidence of "brief contact" cases gave the lead that psychiatric assistance could be advantageous in the selective process at the employment office, in eliminating those who would obviously be misfits. Much experience in this was gained in the selection of specialized military personnel for special appointments, which will be discussed in detail later, but, in passing, this opportunity is taken to comment on the value of psychiatry in the employment division. The value of this was well demonstrated in the Induction Stations of the Army, and appears to promise equal value in an industrial setting.

The psychiatric service to the community was more comprehensive than the usual community psychiatric program by virtue of the absence of other social service facilities. It developed under forced draft to meet an ever-changing emergency situation of a population growing faster than resources could be evolved to meet the need. The psychiatric service was established as an aid to reducing absenteeism and terminations. These latter were caused more frequently by factors outside the plant than with the job or working conditions. As a result, effort was concentrated on improving community resources. Experience taught that the disgruntled became more tolerant of discomforts if they were convinced an honest effort was being made to correct the faults. The interest of the psychiatric staff was directed toward an integration of existing resources that would eliminate duplication of effort, for the psychiatric service was one of the few with community-wide reponsibility inside and outside the segregated production areas. It was possible, for instance, in the case of an employed man who showed signs of tension on the job that were obviously due to anxiety at home, to get a seemingly casual check on his children in school. If there was evidence of maladjustment in the children, the social worker could contact the mother in the home in an effort to offer constructive assistance to the total family situation. There was no apparent connection between the contacts with the father in the plant, the interest in the child in school, and the home, unless this recognition of continuity was desirable, yet the treatment of the whole problem was on a well-integrated basis emanating from one central office.

This system of integration would probably not be applicable or practical in an ordinary community but was an essential in Oak Ridge in keeping the program rolling with a minimum of absenteeism and termination. The Child Guidance Section worked with the staffs of the nursery, elementary and high schools, the Juvenile Court and the various recreational facilities. The Adult Service was closely allied with the Dormitory Counseling Service, the Town Hostesses, the Public Health Nurses, the Recreational Service, the Military Police, as well as the Industrial Counselors, the Personnel and Medical divisions of the plants.

Psychiatric Service within the plants was slower to develop than the Community and Hospital service, since the need was less obvious. The psychiatric staff members, moreover, had little previous experience in industry, and top management was skeptical that the service offered tangible assets. Management was overburdened with the details of creating a mammoth plant to produce in a still vaguely defined scientific research field on a mass production basis. The routine of medical care was an equally heavy burden to the plant physicians, who had to offer better than average physical care to an ever-increasing group of employees. Shortage of physicians and space were perennials that reduced enthusiasm toward any innovations. In many levels of management and even in the medical departments there was apprehension toward anyone who became a "psychiatric case." The long-existent concept that psychiatry deals only with the insane was hard to break down and replace with the philosophy of prevention and constructiveness. Identification with the psychiatric service sometimes worked to the disadvantage of the worker. The facts remained, however, that there were psychiatric problems and that the potential productiveness of many of those who were affected was minimized or in danger of being lost entirely. For example, in one instance, illustrative of many, the psychiatrist called the officer in charge of reassignment and transfers in the plant, suggesting replacement of a young woman showing marked anxiety over working with chemicals on her present job. She had good reason for her fear, as she had been badly burned by acid in the chemistry laboratory in high school, and was having a difficult time making the transition to life in Oak Ridge. Her many anxieties of dissatisfaction with dormitory life, lack of friends, concern for the welfare of her fiance overseas, sleeplessness all coalesced and found expression in anxiety over working with any chemicals. The patient was an intelligent individual with much to offer, with good experience in office work. As chemical workers were at a premium at the moment, the transfer office resisted the transfer to clerical work and abruptly terminated her "as they had no time to bother with a mental case." It put the psychiatric service in a bad spot, since from their point of view, termination was totally unjustified. Fortunately it was possible to place her in a clerical position with another company, where she has done excellent work, has earned two promotions, and has lost her fears.

PSYCHIATRIC service in the plant in which we are particularly interested began in a formal way in the spring of 1945 when a psychiatric social service worker was assigned to the plant two afternoons a week. She was able to act as a liaison between the psychiatric staff at the hospital and the medical staff, patients and counselors. In this capacity her services were valuable. She was able to make appointments for patients and correlate the history of the plant situation with find-

ings of the psychiatrist, or interpret his recommendations to the Company when some readjustment was necessary. She was also able to acquaint the industrial relations counselors with the availability of the psychiatric service at the hospital and minimize the original resistance to the word "psychiatrist." Her resignation in August, 1945, posed a problem as to whether to abandon the program, replace her with another social service worker, or to proceed with a more active program. It was decided that the professional field of the part-time social service worker was too limited to develop to its full value psychiatry in industry, and that further exploration should be carried out by a psychiatrist. As a result, an Oak Ridge hospital staff psychiatrist was assigned two afternoons a week beginning in the month of October. He had had little experience with industry, but this little was greater than the experience which the industry had had with a psychiatrist. Mutual doubt was the common denominator which dominated the first meeting of the minds. As a result, it was agreed that caution would constitute a conspicuous ingredient in whatever program would be evolved.

There was little authentic information in the psychiatric literature to establish whether or not a psychiatrist had any place in industry, or, if a place did exist for him, a definition of his area. As a result, a program was launched with the objective of meeting the needs of the emotionally disturbed effectively. If we were successful we would, incidentally, have assisted in establishing the place if any, for a psychiatrist. We stress that we were groping for assistance in a situation which was confronting us with difficulties and were not setting out to prove any pre-conceived theories. As a result, we believe, our positive results to date can be considered significant. A cautious attitude had to be maintained in order that the program could be readily abandoned in case it did not contribute to production efficiency.

The first step in the program was making available a psychiatrist's services at appointment intervals of one-half hour. A number of advantages became evident very quickly.

The first advantage was that a much higher percentage of original appointments were kept, owing to the fact that the consultations were held on Company property during the employee's working hours and without loss of pay, as is the generally accepted practice in any non-occupational condition which is associated with mal-adjustment at work. The second was the greater ease with which the patient adjusted to the surroundings. Since it was his own plant hospital, he was already considerably at home. The third advantage was the ease and informality with which a staff physician could refer a patient and make an appointment. The casual introduction while the first appointment was being made frequently was additional assurance that the appointment would be kept. The fourth was the closer rapport between the referring doctor and the consultant due to the "in-staff" type of consultation. The final outstanding advantage which could, fortunately, soon be illustrated by examples was the fact that confidence in the plant department increased as a result of "cures" being accomplished on the job.

The disadvantages of this arrangement must also be considered. The first and most fundamental is the legitimate objection that may be raised because of the time and expense involved in long-term treatment for non-occupational conditions. This objection has been finally discounted entirely, however, by our realization that cases involving long-term treatment should be excluded, since suitable cases will respond to a limited number of sessions. This point has been discovered by accident rather than proved by any design on our part. In several cases, circumstances existed which precluded any possibility of frequent interviews. In some cases the stay on the area was limited to a given number of days, and in one striking case only one consultation would apparently be possible. Both the patient and the psychiatrist knew these limitations in advance. It was rather startling to find that the end result by the time the deadline arrived was comparable to that in similar cases when the number of interviews was not limited and they were allowed to stretch out. We are now at the point of offering the patient a limited maximum number of interviews—six—and informing him or her that this number will not be exceeded except for exceptionally good reasons. If this practice does prove sound, we feel that the service offered will not be too extended to fit into the principle of accepting only limited responsibility for any type of non-industrial condition.

The second objection is the difficulty which a patient encounters in dis-associating the employer from the intimate knowledge concerning his personal problems, which must inevitably be revealed to the psychiatrist who is in the company's employ. We believe that a sincere explanation to the patient that his revelations will be held inviolate will overcome his reticence. If such a promise cannot be made in all sincerity, we would recommend that any effort to build a program be abandoned, as we feel failure would not only be certain, but that it would also be deserved. Separate records are kept under lock and key by the psychiatrist, which allows him to make fuller notes than would be desirable on the patient's regular case history. A short entry on the regular record indicates that consultations have been held, and a brief summary of the patient's over-all situation may be added. Even the psychiatrist's private record may be reviewed by the patient if he desires, and any extremely personal material may be reworded to become acceptable to him. Seldom have patients failed to endorse a record sufficiently adequate to serve the purpose of allowing continuity of treatment. The exceptions have been so few that the psychiatrist has been able to retain their case histories in his memory.

A third objection will be encountered in the disturbed or resistant case when animosity or resentments to the psychiatrist are transferred to the Medical Department as a whole and/or against the employer. Such a situation is serious when it occurs in the psychiatrist's private practice. It has an added seriousness in industry because the employee frequently has no alternative to the plant medical department for other on-the-job care. If, for example, he is a private patient of the psychiatrist, he can transfer to private care elsewhere or he may consign all psychiatrists to some place which he thinks suitable for them and still feel free to come to the plant medical department, which has not been involved in his psychiatric situation. On the other hand, should the association with the plant psychiatrist be painful enough to arouse a strong antagonism to the plant medical department, he will be in an extremely awkward situation should some emergency force him to return for other treatment.

We have remained conscious that the introduction of a psychiatric service is not without its dangers. On the contrary, even in skilled hands, the results may occasionally be disastrous when the breaking down of a psyche has been carried too far, or the ability to re-

build is lacking in an individual. When the psychiatry is not skillful, these dangers become multiplied. We do not feel, however, that the fact that psychiatry may be dangerous to the individual is sufficient reason to forbid its practice. We have not abandoned surgery because of the occasional mishap, nor have we abandoned smallpox vaccination because of the occasional complication of the procedure.

As a rule, we limit all treatment, medical or surgical, in the plant hospital to cases which may be treated adequately and with reasonable safety in the medical department in accordance with the skill of the staff. When such care demands more skill or superior facilities than we possess, we refer it to the outside. We also refer those patients to the outside when the magnitude of the care required or the nature of the case is such that the industrial relations interest, or the feelings of the family, are better protected by care elsewhere. We feel that a sound parallel applies in the in-plant care of the psychiatric patient. If an emotional situation is very involved, or may become a matter of intimate concern to others outside the plant, or may attract considerable attention for any reason, we feel it should be referred away from the plant. While one psychiatrist acted in a part-time capacity in a plant Medical Department and also acted as a private psychiatrist in the community, he was able to select the location for therapy and decide in which capacity he should undertake treatment. Now he is on a full-time basis and applies the same principle except that he refers the patient to a colleague in the community.

We saw in the presence of a psychiatrist the possibility of in-service training for the medical staff. The capacity to recognize and/or handle mild emotional disturbances by an industrial physician is not fixed in any one individual nor uniform in all industrial physicians. Those who are endowed with appreciable ability in this line usually develop it through their own initiative to a considerable degree. This type of physician may learn finer points of recognition or techniques from the psychiatrist which will enable him to screen individuals from the mass with greater ease or accuracy. As a rule, however, we expect the psychiatrist will be most helpful to this physician in improving his latent ability to handle cases rather than by improving his intuitive skill in selecting them.

When the industrial physician's capacity to recognize the emotionally disturbed is limited, we would expect that the interested psychiatric colleague may be able to develop this limited capacity to a maximum point for that individual. When this limitation is extreme, we would not expect the ability to handle cases to be proportionately any greater than the ability to recognize them. Nevertheless, it was our belief that even those with fixed limitations could be taught to screen their cases even though the gauge of the mental mesh was much coarser and many cases would still pass through their hands unrecognized. By and large, our experience has not caused us to modify this theory. It has, moreover, emphasized a corollary.

The ease and speed with which a satisfactory end result can be obtained depends very greatly upon the proper preparation of the patient before he actually meets the psychiatrist. As might be expected, those with a naturally high capacity for recognizing or handling cases not only refer patients with less obvious but none the less painful difficulties, but their patients are much better prepared for the acceptance and the immediate institution of treatment. Physicians with limited phychiatric capacities refer fewer cases, since they recognize only the most obvious, and are much less capable of properly preparing those cases which they do refer. These observations are considered to be of considerable significance, and, we believe, are worthy of some discussion.

We emphasize at this point that at no time have we ever felt that a specially trained phychiatrist should be employed for the purpose of making consultation available for each patient with any signs of emotional disturbance. His services, in so far as they are available, should be reserved for those cases only which present difficulty to the staff physician, or which offer value as demonstration material for the medical staff. At the risk of overemphasis we wish to make it clear that it is our firm conviction that the responsibility for the psychiatry practiced in industry must continue to rest firmly on the shoulders of the industrial physician. Psychiatry in industry inevitably is and will continue to remain primarily in the hands of the industrial physician, and the individual patients seen by the psychiatrist must be those referred to him only because they require greater skill than the individual industrial physician possesses. This is in keeping with the principles of medicine in general and in keeping with our concepts of industrial medicine in relation to other specialties.

We may draw a parallel, for example, from surgery. If a number of adequate industrial physicians were rated according to their surgical skill, there would be a considerable range in their capabilities and a wide series of steps, representing the points at which each one should seek the assistance of a consultant. Each has met his reponsibility adequately, and the patient, the employer, and the physician himself are protected if a referral is made at that point. This individual variation must always exist, and any attempt to define an arbitrary level at which all industrial physicians should refer surgical cases would break down.

If we carry the parallel further and visualize a skilled surgeon spending some time with the staff, we can readily imagine the level at which the individual physicians would refer cases being raised, as each could increase the skill he already possessed. Even a hypothetical individual whose knowledge was at or close to the zero level could raise the level perceptibly. If we carry the analogy still further and are convinced that it would be justifiable to employ a surgeon for this purpose, we believe a point of diminishing returns would be arrived at, beyond which the question of his continued employment would become debatable. To justify his employment by declaring that he should do all the surgery, even to the point of treating the simplest of lacerations and that the staff will exercise none of their skill, would be to assume an untenable position. If, of course, such an illogical ruling were to be established, all surgical cases could be referred because they could all be recognized without any special training. The analogy between the surgeon and the psychiatrist is not applicable at this point because some special training may be necessary in order that phychiatric problems will be recognized. We have then, by comparison, a much more valid reason for the employment of a psychiatrist for purposes of in-service training. As yet we have not defined the point of diminishing returns, but we believe it will be measured in terms of weeks if this service is his only activity.

ANOTHER objective which was considered of great potential value lay in the ability to implant sound emotional attitudes among medical, nursing, or super-

visory staffs. Our program is under way with carefully selected groups, and our results to date are most encouraging; and because our approach has been cautious, we have not yet encountered any significant difficulty except in finding words to describe our ideas. The reaction to this program has been paradoxical. Our attempts to describe it to date have left some listeners quizzical, some incredulous and some openly resentful. On the other hand, the reactions of those who have attended any demonstrations have varied from one of extreme and friendly interest on the part of a few, up to grateful enthusiasm on the part of the others. We have not sensed any residual resentment even from those who were originally most resistant.

The impression to be effaced is that it is a "class" in psychiatry, with informal presentations of psychiatric teachings and concepts presented objectively. Actually, it might be described as a class where the students learn through taking, individually and collectively, a subjective role.

In an attempt to make our meaning clear we quote one of our previous statements, "To understand the normal psychology I believe it is of help to study the abnormal—the psychotic. Those who have become psychotic are the caricatures—the extreme exaggerations of the normal. We who still pass as normal all go through in miniature what the psychotic undergoes in extreme." The reader who has already had the experience with the group therapy method of treating psychotics may understand us more readily than the average reader when we say that the group therapy meeting of the psychotics is an extreme and exaggerated form, almost a caricature, of the type of staff meeting which we hold. The experienced psychiatrist will also readily understand us when we state that our caution is still greater than our enthusiasm. We hope to maintain this attitude until we may reach a final evaluation and report our results, either positive or negative, should they seem to merit attention.

We also emphasize that we are not advocating extension of this practice at this time except under well-controlled conditions. We also wish to emphasize that we are confining the technique at the present time to a few groups of responsible supervisors, and their very selection indicates that they are considered adjusted and responsible. We have weighed the possibility of introducing the group method as a therapeutic procedure for industrially employed patients, and have completely abandoned the idea.

At our sessions, which were held with the nurses, we suspected that the technique used in a group therapy meeting would require modification in dealing with a normal group, and this suspicion was soon verified. Mistakes were made which were apparent and were corrected in the second group which was composed of executives. In this group the need for announcing in advance the total number of sessions to be held was demonstrated, and we believe this can be estimated to correspond with the point of diminishing returns. Two more groups are under way at the present moment, and the subject matter is being channeled more specifically, not only to save time, but also to facilitate obtaining managerial approval to the series, which might otherwise appear nothing more than "bull sessions." We hope in a matter of months to be able to present a more detailed report with final conclusions rather than tentative impressions.

We have not as yet succeeded in finding a name for these groups which we feel is appropriate. The objection to calling them "group therapy" is obvious, since we are dealing with adjusted, responsible individuals. We do, of course, recognize that these sessions do result in some minor emotional readjustments and a re-enforcement of the group's existing stability. One title suggested has been "Conferences on Integrating Emotional Energy." It might be that the phrase "Channeling Emotional Energy" comes closer to expressing our motive. We are still searching for an appropriate title. We have anticipated certain final results to be expected from these group sessions. This anticipation was based on the results of parallel groups held among school teachers, student nurses and others on the area. To date we have no cause to modify our expectations.

The techniques used cannot be described in this paper, but we believe we can give the reader an oversimplified description of the process.

If we were limited to a one-sentence description of the most valuable result of the conferences, we would say that it lay in the participant's ability to "verbalize his aggressions and direct them to the source in a manner which results in a more comfortable relationship." With some elaboration, this could be adequately described in a few paragraphs which would seem to obviate the necessity for any series of conferences. Actually, the process of intellectual acceptance of the concept can be accomplished almost instantaneously. Results do not follow, however, until it is completely accepted emotionally with a depth of feeling which reflects itself in a conscious change of individual feeling and a better integrated personality. This emotional acceptance seldom, if ever, follows immediately the intellectual acceptance of the idea. It is only after constant and repetitious verbalization expressed in as numerous varied ways as possible that the participants suddenly grasp the personal significance to them of the meetings.

Still another objective of our program was to study the techniques of private psychiatric practice, applying them to the industrial employee and evaluating any modifications which seemed necessary. Our conclusions to date indicate that considerable tempering is necessary. We have already indicated that the more disturbed cases should be screened out entirely and referred to the community colleague. We have also suggested the time limitations allotted for treatment. In essence we believe the psychiatric therapy used in the industrial patient should be more directive than the enthusiasts in non-directive therapy would have us believe. We also agree with the school of psychiatry who believe that therapy should stop at the point where it is rejected by the patient. When he feels that the overflow of his emotional disturbance has been drained off to the point where he can carry his own load, we are more than satisfied to allow matters to rest. We believe the complete draining of emotions and efforts to entirely recast a personality have no place in industrial psychiatry.

Some psychiatric techniques almost constitute mental cruelty in their belligerence. We are willing to concede that in selected psychotic patients these methods may be justified. We will concede that they may be valid when used by the private practitioner in milder emotional instances. Our conviction that such techniques might be extremely dangerous in the industrial setting with the employee continuing on the job, is based on some experience. We have not found them to be necessary in the type of case under our care. While we will agree that the therapeutic process involves a transference to the therapist, we feel that this should be minimized as far as possible lest the

number of interviews are continued beyond a justifiable limit. This was well illustrated in the case of an immature girl who accepted the therapist as a parent substitute and insisted on numerous and frequent interviews well beyond the point of her original therapeutic needs. The industrial therapist who bears this point in mind, may guard against its occurrence. The private practitioner may not feel the same need to avoid this situation, because this condensation of the ending phase of therapy is more essential in industry than it might be in private practice. Paradoxically enough, we feel that a very healthy limitation on the number of interviews is obtained by the insistence that they take place on company time. In the majority there is a desire to maintain a good work record, and in the cases where such a desire was lacking, this ambition resulted from therapy. The gratitude for the therapy being offered on company time served as an incentive to use this time honestly. As indicated previously in this article, we are definitely limiting the number of interviews in advance and believe that the desirable maximum will prove to be between four and six half-hour interviews. This will considerably reduce the average below this figure since many minor disturbances are handled in one interview.

In the light of the above it would seem that our rejection of group therapy for individual patients is justified. Anyone experienced with group therapy will concede that the process is slower; usually going beyond the depth that we feel necessary and that it cannot be controlled in type or extent for the individual needs. Since the time involved in the individual treatment of the average case will not exceed three hours per patient, the advocacy of group therapy as a time-saving device is unwarranted.

The last phase of the present program concerns itself with the techniques for the screening of applicants on the basis of emotional stability. Since the technique used was developed through experience on the project, we believe its detailed history will be of some interest.

Until recently psychiatrists have made little contribution, in the selection of new employees in the industrial field. The clinical psychologist has pre-empted this field with much success in the period between World War I and World War II. Elaborate batteries of testing programs have been evolved that demonstrated their value in classifying intellectual capacity, potential skills and abilities and special interests. There has been dissatisfaction, even among the clinical psychologists that the available tests for emotional stability have not yet reached the level of reliability that is desirable. At best the tests available are not definitive and clear cut or are so time consuming in interpretation that their value is diminished for extensive routine diagnostic service.

In the early days of Selective Service Examinations at the Military Induction Stations, a system of psychiatric screening developed. The results were not completely satisfactory, for they varied greatly in different sections of the country depending upon the availability of adequate numbers of trained personnel. In spite of its superficiality, the results were awe-inspiring. An alarmingly high percentage of the young men of the nation were ineligible for military service because of nervous instability. In spite of this psychiatric screening, psychiatric casualties outnumbered all others in bringing about discharge from the services. The incidence of instability in employees in industry is, no doubt, equal or higher than in the Army services, and recognition of it by industrial management can be used to advantage.

The demand at Oak Ridge for a tremendous staff of workers attracted large numbers of those rejected as ineligible for military service as well as those discharged from service because of psychiatric disability. As a result, considerable number of problems appeared with aggravation of symptoms and they sought assistance either through medical channels or the counseling service. Few had any real understanding of why they had been rejected from service and were humiliated and disturbed. In interviews, these individuals were quite willing and often anxious to talk at length of their concern, and were relieved to find some constructive help that did not threaten their already existing sense of insecurity and inadequacy. With an improved system of evaluation at the pre-employment level, incidence of these recurrent breakdowns could have been reduced and the efficiency of the worker increased. The majority seen had done useful work but their efficiency gradually was reduced as their tension increased, and they struggled with their problems unaided. These workers will continue in the industrial world, and because the majority are intelligent with much to offer, it would seem astute to utilize their assets, recognize their liabilities and attempt to effect an equilibrium so that what they have to offer can be used to greater advantage.

Industry as a whole has been apprehensive at accepting these "mental cases" in the plant for much of the publicity given the neuropsychiatric casualty has been unfortunate and ill-advised and served to increase the patient's anticedent sense of inadequacy. Obviously the situation is no different from what it has always been except that certain individuals have now acquired a new tag. Complete rehabilitation is the expectancy for all but a small percent of the Veterans discharged because of psychiatric disorder. The community and patient can both capitalize on the psychiatric findings and use them to its advantage in averting recurrence. While some broke completely, the majority functioned industrially at an acceptable level, although it was probably below their potential level of capacity. The neurotic patterns were an unrecognized handicap that impaired potential efficiency and productivity. The maladjustments vary from minor irregularities of attendance to the more disturbing paranoid trends that often takes the form of aggressive agitation. The only change between the past and the present is that now we are aware of the implications of the findings. Industry and the patient can benefit from this knowledge if it is used constructively.

While no extensive use of psychiatric selection was carried out with the civilian personnel at Oak Ridge, much was done in the selection of Military Personnel. Certain subdivisions of the Manhattan Project were a more carefully guarded secret than were others. For a variety of reasons, psychiatric casualties were more awkward in these areas. While the incidence of breakdown was not unduly high, every possible effort was made to reduce it or eliminate it. After considerable discussion it was decided that each military transfer to these areas must be certified by the Oak Ridge Psychiatric Staff as suitable, before transfer. This was an important assignment for the psychiatric department, whose staff would be held accountable if the results were not satisfactory. Those who had earlier made the selection naturally felt that the suggested innovation was a criticism of their methods. The results had to be sound for it was a matter of

transfer into our organization on a permanent basis. Unsuitable individuals could not be transferred out. Service men of every category were needed, from military policemen, maintenance and commissary workers, to the highly skilled and trained technicians, and these demands were urgent.

Large numbers of potential candidates for screening were assembled at various camps across the country. The intellectual and physical qualifications of each candidate had already been established at the Induction Stations and classification centers. Specialized qualifications had also been established in the preliminary interviews. Final selection and psychiatric evaluation was the last step prior to transfer. Time limitation did not permit individual evaluation. Group evaluation was the only solution. The various members of the psychiatric staff had had considerable experience with group technique as a therapeutic tool; in army psychiatric units, in a boys' correctional school, and in civilian psychiatric practice. It was necessary to evolve a new application of the therapeutic group technique for purposes of selection. Considerable work had been done with this in army groups here and abroad in the selection of candidates for special services and officer replacement with excellent results. It seemed a possible solution to this assignment.

Nine months have given ample opportunity to refine the technique in the selection of well over a thousand military personnel. The available candidates were interviewed in groups of six to 12. Larger groups are unwieldly and it is hard to get a clear impression of each individual. Under the leadership of a skillful group leader, the individuality of each member of the group defines itself in the first few moments, giving a quite clear-cut picture of potentialities. The egocentric individualist chooses the opportunity to attempt to demonstrate his leadership and the more cautious conservative members in the course of the hour automatically begin to demonstrate their own reaction of resentment, acceptance or submissiveness. The shy, retiring and insecure individuals identify themselves by their lack of participation. Soundness of judgment, dependability and consistency of reaction become clear to the experienced observer. The psychopath, the individual with paranoid tendency, and the neurotically inclined are easy to spot in a short period. The schizoid and the individual who feels inadequate segregate themselves by the lack of verbalization, to be seen later as individuals. Hostility and resentment usually show up quite clearly in the course of the group meeting and are useful guides as to ability for individual potentialities for adjustment on the job. The rejection rate through this medium has been quite consistent, averaging from 13 to 17%. The constitution of the group is of relatively minor importance. Experience demonstrated that the classification could be done equally successfully with a group composed of truck drivers and highly trained specialists, although similarity of backgrounds, training and experience made the interviews easier for the examiner. It proved inadvisable to attempt mixing the group of WAC's with enlisted men.

Shy, non-participating members of the groups made an interesting study as individuals. Many were shizoid potentials, others immature individuals who had not learned to verbalize easily. Individual evaluation frequently offered opportunity for brief therapy that changed the evaluation materially. The recognition of individual limitations allowed placement in a position where there would be a minimum of hazard to the individual and the organization, yet at the same time offered the opportunity to develop his potentialities.

The results of this type of selection have been most satisfactory, for it has reduced the occurrence of new psychiatric casualties to a minimum in the locations for which the individuals were screened.

Recently a similar system has been introduced into the employment service for civilians of one of the plants, but it is too soon to evaluate the results. At this time the psychiatrist's findings are not disclosed, but the doubtful employees are listed for survey at the end of a fair trial period, probably six weeks, to establish the validity of the psychiatric prediction. A control group of those classed as good, and moderate employment risks, employed at the same time will also be followed. The civilian employee group is much less selected than the military groups, who had passed the screening of the Induction Stations and Classification Centers prior to being considered for transfer into the Manhattan District. The indications to date are that approximately 15% of the applicants will fall into the "poor risk" group.

Because of pressure by the group who do job interviewing, an attempt is being made to correlate this work with their particular function. In many respects it might have been better to have first collected data, which would tend to show what, if any, positive value psychiatric screening had to offer in this setting. On the other hand, because of time limitation and because the psychiatrist had had experience with the work outlined above, and so was relatively confident of the outcome, it was felt that it would be safe to make this effort.

At present the work consists of weekly conferences with the job interviewers in which the "hires" of the week are discussed individually. All of these job interviewers are highly trained, mature people interested in adding to their respective skills, and we are sure that they will not attempt prematurely to change their methods of interviewing before they have attained sufficient skill in making emotional evaluations.

An interesting sidelight on these conferences is that through such group discussions a better integration of the group itself is developing. This should result in additional benefit to each member, and to the group as a whole, in that their methods will become more standardized within the limitations of their own personalities.

Conclusions

CAUSES of emotional disturbances in industry lie primarily within the individual, and the exciting mechanisms lie in the home or in his social surroundings. Our experience is that in not more than approximately 10% of on-the-job emotional disturbances can exciting factors be recognized as lying in the industrial environment.

2. An adequate minimum amount of treatment results in conspicuous on-the-job improvement. This minimum will average two hours individual time and will rarely exceed three hours.

3. Therapeutics directed to on-the-job patients is economically profitable by preventing non-disabling maladjustments from developing into major disabling breakdowns.

4. Seriously disturbed cases or those in which deep or prolonged therapy is required should not be handled on the job but referred to outside therapists.

5. The community gains from a sound industrial psychiatric program by the increased number of home adjustments accomplished by on-the-job therapy.

6. Institutional or private practice psychiatric tech-

niques may require considerable modification before they are applicable in industry.

7. A program which we believe will justify the employment of a psychiatrist by an industry for a given period of time consists of:

(a) Treatment of individual cases with particular reference to their value as educational material for the regular medical staff.

(b) In-service training for the medical staff.

(c) Improvement of emotional attitudes through conference methods with medical, nursing, counselor, or supervisory staffs.

(d) Training for employment interviewers for methods of screening for emotional instability.

8. Criteria justifying the permanent employment of a psychiatrist are beyond the scope of this paper.

[NOTE: Since the preparation of this manuscript, there has appeared in the February number of INDUSTRIAL MEDICINE "A Brief Personality Appraisal Technique—For Use in Interviewing," by LEONARD E. HIMLER, M.D., Ann Arbor, Michigan. This valuable article elaborates on the evaluation of emotional stability by interviewers and offers us valuable material for our parallel studies more recently initiated.—Authors.]

"Plumbophobia" Occupational Lead Poisoning

—A Study of Cases of Lead Absorption and Lead Intoxication Observed by the Author at the National Lead Company, Atlantic Branch, Perth Amboy, New Jersey, and at the Perth Amboy General Hospital—

WM. C. WILENTZ, M.D.

IT IS NOT my intention in this paper to present anything startling on this subject, since years of study and investigation by prominent members of the medical, chemical and engineering professions have provided our libraries with a large amount of scientific material. It is my desire, however, to present certain phases of this subject, along with my own interpretation, to those persons who are interested in the effects of lead as it confronts us daily in industry.

My reason for this is the obvious fact that the lead industries have been on the defensive far too long and unnecessarily. The unfair and insidious propaganda which caused this situation has been permitted to permeate throughout the entire field of industry, government circles, and courts of justice and has, therefore, placed the entire industry in a very unfavorable position. This is due primarily to the fact that too many men have written and are now writing too many books and articles about lead of which they know too little from a practical standpoint. These men, either innocently or by intent, are responsible for this condition which I term "Plumbphobia," meaning "Fear of Lead." With the aid of information obtained by a survey of studies at our plant, we hope to assist in neutralizing this attitude.

I can well recall that when I first undertook the responsibility of looking after the health and welfare of the employees at this plant, I had great fears of what was to come. I did not know what to expect, what dreadful complications were likely to arise, what therapeutic agents we had at our disposal, and what prognoses to anticipate. My trepidation had its origin in the talk and gossip among the people of the community, where "everyone was familiar with the bad effects from lead poisoning." As a matter of fact, the medical and legal fraternities held similar impressions, so that it is not surprising to learn laymen felt the same way.

Such fears and impressions, generally encountered, may have been justified some years ago, but they are not justifiable on any basis today. Industry is spending huge amounts of capital to install the most modern protective equipment, as well as providing the services of well trained physicians and modern medical dispensaries to deal with anything that may arise in the course of employment including the effects such as they may be from exposure to lead.

It is my belief that cases of lead absorption, and intoxication should recover without any resulting disability. This is predicated on the fact that if sound medical observation and treatment are provided in conjunction with present-day cooperation from management, excellent results can be obtained. I will say, however, that without this cooperation anything could happen, will most certainly happen, even today. Let no one misunderstand my thoughts about the toxicity of lead. I am thoroughly acquainted with the possibilities and probabilities of this metal, but I am perfectly satisfied to state frankly and without reservation that I am no more frightened by its effects than I am about other toxic substance. Let's not continue to consider lead absorption and intoxication as "an incurable disease." Let's put an end to this type of loose talk. We have facts to state and nothing to conceal. Let's make sure that men in laboratories be made familiar with the practical and clinical aspects of the condition, and *vice versa*. This is the least that we have a right to expect from men of repute.

The exposures prevalent in our plant were from lead fumes and lead dust in combination with oxides, sulfates, hydroxides and antimony, the most prevalent exposure being from lead dust and primary manner of absorption being through the respiratory tract via of inhalation of the dust.

TABLE I.
AGE FACTORS

	1939	1940	1941	1942	1943	1944	1945	Average
Average age of intoxication cases (years)	32	0	33	32	36	34	32	— 33
Average exposure of intoxication cases (weeks)	10	0	7	14	11	8	14	— 11
Average time lost from work (days)	30	0	33	22	31	21	26	— 30
Age of youngest intoxication case (years)	29	0	23	23	24	25	21	— 24
Age of oldest intoxication case (years)	35	0	46	45	47	54	41	— 45
Length of exposure of youngest case (weeks)	8	0	3	16	4	4	16	— 8
Length of exposure of oldest case (weeks)	6	0	12	12	8	8	6	— 8
Length of shortest exposure case (days)	37	0	29	45	11	11	10	— 27
Length of longest exposure case (days)	32	0	9	12	16	20	7	— 18

Age Groups Studies:
14 cases between 21 to 29 years.
13 cases between 30 to 39 years.
9 cases between 40 to 47 years.
1 case 54 years.

Table I discloses the wide range of age groups that may become affected, as well as showing clearly a well known fact, viz., that the young and middle-aged men are primarily involved and most susceptible to the effects of lead exposure.

That is the reason why it is important that these younger men be given most careful pre-employment examinations.

The most serious cases encountered were two men who were employed in dismantling an old building. One was 35 years of age with a 16 weeks' exposure while the other was 39 years of age with a seven weeks'

exposure. Both were of Spanish descent. Dismantling has always been considered one of the most serious exposures.

It seems to me that average time lost from work of 30 days should compare favorably with other plant figures. We have never made it a policy of insisting upon quick return to work, but, at the same time, as soon as the subjective symptoms subside or disappear, arrangements are made in providing other types of work. The blood picture guides us in this respect, but only as an aid in estimating the entire picture.

TABLE II.
HOSPITAL AND NON-HOSPITAL STUDIES

Total No. Cases from 1939-1945	37
Cases hospitalized	21
Cases not hospitalized	16
Total	37
Hospital case statistics (14 cases)	
Shortest hospital stay	5 days
Longest hospital stay	34 days
Average stay	12 days
Average age of patient	36 years (23 to 54)
Average length of exposure	9 weeks
Average loss time of case	34 days
Non-Hospital case statistics (6 cases)	
Average age of patient	32 years (21 to 47)
Average length of exposure	13 weeks
Average loss time of case	14 days

Table II discloses some interesting facts relating to the hospitalization and ambulatory handling of these cases. It must be clearly understood that we were dealing with different degrees of intoxication, the most pronounced and seriously ill being hospitalized while the mild types were treated as ambulatory.

It is also worth noting that these studies clearly show that the average exposure for the most serious cases (hospital case) was six weeks shorter than the ambulatory case, indicating a more acute fulminating, intense intoxication within a shorter period of time.

Early hospitalization pays dividends—do not hesitate or delay—patients will be grateful—funds will be saved—results will be excellent.

Table III confirms what has always been known as a fact, namely, that there are many conditions other than lead exposure that must be considered whenever this subject is discussed. This truth is still not clear to the general medical and legal professions.

TABLE III.
PRE-EMPLOYMENT STIPPLING STUDIES

Total No. Pre-employment Exam. (1939-1943) 1252

Total No. showing stippling prior to employment ..... 62 — (5%)
Average age of stipplnig cases ..... 32 yrs.
No. groups studied (From 16 yrs. - 55 yrs.) 28

Age groups showing largest numbers of stippling:
21 yrs. 7
20 yrs. 5
27 yrs. 5
31 yrs. 4

Pre-employment occupations of stippling cases:

1 student
2 truck drivers
1 telephone operator
1 barber
1 army discharge
2 tile manufacturers
1 silk manufacturer
1 railroad worker
1 fertilizer
1 jeweler
1 iron worker (underweight)
1 ceramic worker
1 carborundum (and pyelitis)
2 plush mill workers
1 coal miner
2 brick workers (and pyelitis) (1)
2 steel workers (one syphillitic)
4 cable workers
7 copper workers (one with pyelitis) (one with nephritis)
2 A.S. & R. workers—smelters (one with nephritis)
1 detinning worker with terra cotta besides
1 painter
12 lead workers and brick worker (1)
terra cotta (2)
copper (1)
A.S. & R. Smelters (3)
pyelitis (1)

7 none as to occupations, but *following diseases* were found on pre-employment examinations in additon to the above:
3 syphilis
1 nephritis and underweight
1 pituitary disfunction
1 undernourishment

It is interesting to observe that no man employed (who had shown pre-employment stippling) has up to the present time shown any inclination towards absorption or intoxication. This fact has greatly assisted us in the employment problem common to all industry today, owing to conditions beyond our control.

TABLE IV.
BLOOD STUDIES

Period of greatest changes in counts and smears—7 to 14 days after acute symptoms arise.			
Period when blood counts and smears return to normal: (according to whether or not hospitalized)			
Hospital cases			4½ months
Ambulatory cases			5 months
Period when blood counts and smears return to normal: (according to length of exposure)			
20 year group			5 months
30 year group			4 months
40 year group			3 months
Period when blood counts and smears return to normal: (according to length of exposure)			
Short exposure groups (below 10 weeks)			4.4 months
Longer exposure groups (beyond 10 weeks)			4.3 months
Range of Red Blood Cells	lowest count	(H)	2,990,000
		(A)	3,740,000
	highest count	(H)	4,250,000
		(A)	4,780,000
	average count	(H)	3,679,000
		(A)	4,034,000
Range of Hemoglobin Counts	lowest count	(H)	56%
		(A)	68%
	highest count	(H)	76%
		(A)	70%
	average count	(H)	66%
		(A)	71%
Range of Stipple Counts	lowest count	(H)	37
		(A)	30
	highest count	(H)	300
		(A)	141
	average count	(H)	119
		(A)	78

NOTE: (H) Hospital case. (A) Ambulatory case. Stipple cell count per 30 fluids.

Treatment

WE DO NOT employ anything unusual in our treatment. We have nothing new to offer. We felt, however, that in view of the facts that during the past five years we have had to treat 37 lead intoxications, and that in no case so far has there resulted any disability, our procedure in handling such cases must have some merit. For that reason, and only for that reason, do I mention it. Does it not prove that these cases are curable? If we can get such results, so can anyone else.

Anyone who wishes the best information on treatment should consult that most excellent pamphlet recently published by the American Public Health Association, entitled "Occupational Lead Exposure and Lead Poisoning." The pamphlet can be utilized as a guide to the fullest extent, and with maximum benefit to all concerned. I agree with all the suggestions, since I have utilized them generally in all my cases prior to their publication, as well as ever since. I do feel that treatment, in order to be satisfactory, must be administered in a definite specific manner, fully recognizing the problem, as otherwise it makes very little difference what you employ as therapeutic agents.

Our general routine is as follows:

DURING THE ACUTE PHASE:

1. Hospitalize.
2. Bed rest (or ambulatory, depending on severity of pain).
3. One ounce magnesium sulfate every morning on arising.
4. Teaspoonful tincture belladonna-phenobarbital mixture Q.4.H. for pain.
5. Narcotics seldom utilized.
6. 10cc. 20% neocalgluconate—intravenously Q.4.H. (preferred); intramuscularly Q.4.H.
7. 15 gr. neocalgluconate wafers or bone phosphate wafers orally Q.4.H.

8. Warm water bag or electric pad for abdominal pain.

9. Diet high in calcium and low in phosphates.

10. Complete blood count and stippling followed by red blood count, hemoglobin and stippling counts every other day.

11. Estimation of lead in urine and urinalysis, followed by occasional urinalyses.

DURING THE CONVALESCENT PHASE:

1. Regular diet permitted.
2. Mild laxatives recommended.
3. Calcium or bone phosphate wafers provided.
4. Iron and vitamin B complex tablets provided for anemia and as tonic.
5. Warn against overindulgence of alcoholics, exposure to colds, etc.
6. Monthly red blood counts, hemoglobin, and stippling counts.
7. Return to some work as soon as possible for psychological reasons.
8. Make sure compensation payments are made on time for same reason.
9. No further exposure permitted.

DURING THE CHRONIC PHASE:

1. Permanent removal from exposure.
2. Fresh air.
3. Adequate diet.
4. Multiple vitamin tablets for fatigue, malaise and weakness.
5. Vitamin B and its complex for neurologic symptoms and signs.
6. Laxatives for constipation.
7. Calcium therapy if indicated.
8. Adequate treatment for sequelae (if they arise).

REMARKS:

1. Calcium gluconate intravenously must be continued for at least several days after all symptoms of colic subside as safety measure, otherwise pains will recur and you will have to start all over again.
2. Calcium gluconate oral wafers depending on convalescence.
3. No iron preparations during hospital stay—cannot be utilized or absorbed.
4. Vitamins, milk and special diets are questionable as to true value but can be used without any ill-effects if one so desires.
5. Deleading not advocated.

Summary

A COMPLETE and thorough study of 37 lead intoxication cases with no resulting disability has been presented.

2. *Table I shows that:*

(a) Young and middle-aged are most susceptible.

(b) Average lost time is 30 days.

3. *Table II shows that:*

(a) Average exposure for most serious cases (hospital case) was shorter than for ambulatory cases.

(b) Average age of hospital case was two years older than that of ambulatory case.

4. *Table III shows that:*

(a) 5% of all pre-employment examinations show stippling.

(b) 78% of stippling cases had no exposure to lead.

5. *Table IV shows that:*

(a) Period of greatest blood changes occur between seven and 14 days after acute symptoms arise.

(b) Blood counts return to normal earliest in hospital and oldest age group.

(c) Length of exposure has no effect in bringing about normal count quicker.

(d) Average R.B.C. and hemoglobin estimates are lower in hospital cases.

(e) Average stippled count is higher in hospital cases.

6. *Treatment is presented.*

Conclusions

DO NOT underestimate effects of lead exposure, but a frank attitude toward the entire problem on the part of management and medical department minimizes the hazard.

2. The physician-in-charge must examine all blood counts as completed within 24 hours—delay may be serious—thorough study must be made in each case, and the following method is recommended.

(A) When a blood count or clinical signs or both signify a "Suspicious" or "Absorption Case," a written order is immediately sent in triplicate to the general superintendent, department head and foreman with designation of "Watch Case," meaning just what it states.

(B) The same procedure is followed when an "Impending" true "Intoxication Case" is present, but here we designate our order as "Keep-Out-Case," meaning keep out of all exposure. An immediate telephone call to the department head always precedes the arrival of written order on the same day.

(C) These orders are again repeated in a Monthly Medical Report to the same members of management, whose duty it is to see to it that all medical orders are carried out without delay. Where discussion of the case is requested by management, a conference is always arranged, but the original medical order stands unless there is unanimous approval of some other procedure. I would like to state at this point that compromise does not fit into this type of work and the medical department should adopt a fair but stern attitude, owing to the great responsibilities involved.

(D) As soon as the condition of the employee changes to a satisfactory level, the medical department issues another order to that effect.

3. All cases must be in absolute control of the plant physician or surgeon, as the treating of these cases requires experience peculiar to this type of exposure. Best results will otherwise not be obtained.

4. Early hospitalization important.

5. Deleading not recommended.

6. Monthly red blood counts, hemoglobin and stippling estimates. Monthly physical examinations. Quarterly urinalyses.

7. No re-exposure permitted without the consent of the medical department.

8. Employees must be impressed with importance of reporting all illnesses immediately to the medical department, so that relationship to exposure be ascertained quickly. If the company has no arrangement to provide medical care to the employees other than for those conditions arising out of their employment, then I strongly suggest that the plant physician visit the home of the sick employee for the purpose of determining this relationship. If this policy is not adopted, it is easy to see what dangers are inherent.

9. Employees must be educated to this hazard by intelligent means.

10. Employees must be educated in the value of hygienic measures, such as cleanliness of hands and body, dental care, frequent change of working clothes, ingestion of sufficient and proper foods, sufficient sleep and rest, as well as reasonable abstinence from alcoholics.

11. Central eating places should be established. We

suggest providing employees with an extra 10 minutes prior to eating time for purpose of "getting cleaned up." We suggest also that everyone be compelled to eat in this central cafeteria, even if some are permitted to bring their own foods to the plant.

12. Lead absorption and intoxication cases should recover with no resulting disability.

13. The public is entitled to know our views, and it is our responsibility to them, as well as to the profession, to see that they have access to these opinions.

Industrial Medicine and Surgery

—Abstracts of Papers and Presentations of the Midwinter Scientific Meeting of the Central States Society of Industrial Medicine and Surgery, December 7, 1945—

Reported by

C. O. SAPPINGTON, M.D., Dr.P.H.

THE annual midwinter scientific meeting of the CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY was held on Friday, December 7, 1945, with a forenoon meeting at St. Luke's Hospital, including Pathological Conference from 9:00 to 10:00 o'clock and Presentation of Reports and Cases by the members of St. Luke's Hospital Staff, from 10:00 to 12:00 o'clock.

The afternoon and evening sessions were at the Palmer House with a program on varied subjects.

Presiding at all the sessions was DR. H. W. WELLMERLING, President of the Society, and the Program Chairman was DR. ROBERT M. GRAHAM.

Program was as follows:

"Management of Industrial Fractures," URBAN E. GEBHARD, M.D., Milwaukee, Wisconsin.

"Painful Conditions about the Shoulder Joint," EDWIN W. RYERSON, M.D., Senior Attending Orthopedic Surgeon, St. Luke's Hospital, Chicago.

"Industrial Dermatoses," L. F. WEBER, M.D., Associate Professor of Dermatology, University of Illinois College of Medicine, Chicago.

"Early Closure of Chronic Osteomyelitis with Split Thickness Skin Grafts," MAJOR FRED C. REYNOLDS, Chief Orthopedic Staff, and CAPTAIN CHARLES E. STEBBINS, M.C., Gardiner General Army Hospital, Chicago.

"Psychosomatic Consultations in Industry," E. C. IRVIN, M.D., Medical Director, Cadillac Motor Car Division, General Motors Corporation, and Chairman, Committee on Psychosomatic Medicine and Re-employment of Veterans, AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS.

"Re-employment of the Physically Handicapped Veteran," M. H. KRONENBERG, M.D., Assistant Medical Director, Caterpillar Tractor Company, Peoria, Illinois.

St. Luke's Hospital Clinical Session

AS USUAL, there were some very interesting cases presented at the pathological conference, by DR. EDWIN F. HIRSCH, Director, Department of Pathology, St. Luke's. The cases included, among others, one of myasthenia gravis and lipoid pneumonia. Discussions were given by DRS. MCKAY, JOHNSON and VAN HAZEL. DR. VAN HAZEL also demonstrated three cases of bronchogenic carcinoma, discussing the x-ray and pathological manifestations, exhibiting two cases and commenting on lobectomy and pneumonectomy results.

DR. HAROLD STEINBERG discussed "Advances in Industrial Medicine and Hygiene."

Effects on the respiratory system were considered with relation to the use of aluminum in silicosis cases, and aerosols in the prevention of respiratory infection, reviewing the early work on aluminum and submitting comments on its present status; also a review of experiments with aerosols, principally propylene glycol. Mention was made of the release of virus vaccine against influenza. There was brief comment on beryllium pneumonia and plasma cell pneumonitis.

An x-ray demonstration of cases of silicosis was given showing different types, simple, conglomerate, and tuberculosis and silicosis. There was also a case of Friedländer's infection, pneumonia at the base with secondary infection; acute pulmonary edema from sulphur trioxide gas (which had exhibited dyspnea and bloody sputum) and which had recovered by treatment with oxygen and penicillin.

There was brief comment on the increased use of lead and mercury during the war; also the increased use of luminous compounds and radium, with remarks on breath radon tests, the use of exhaust ventilation, and the teaching of good working habits.

Brief allusion was made to industrial dermatoses, particularly with reference to the use of synthetic and natural glues — phenyl mercuric salts — synthetic rubber gloves — monobenzylether and hydroquinone (anti-oxidants).

A brief case history on carbon tetrachloride poisoning was submitted, this case having shown 356 mg. percent of urea, and a condition of albuminuria; this patient had used a fire extinguisher liquid to clean clothes; the autopsy showed the presence of a toxic hepatitis. There were comments with reference to the use of methionine and amino acids for treatment. The presentation was concluded with a few brief remarks on rehabilitation.

DR. WILLIAM BAKER spoke on "Injuries of the Lower Urinary Tract."

Emphasis was placed on the condition of the urinary tract before injury; that it is necessary to know this condition. Epididymitis after trauma usually means previous infection, which usually can be demonstrated. Torsion of the testis is more common than formerly believed and is frequently associated with a congentially defective gubernaculum. Subluxation of the testis usually requires surgery.

The presence of a lump in testicular tissue calls for investigation. Abdominal palpation should be done unless there is a retroperitoneal mass, bilateral orchidectomy and radiation are indicated. Tuberculosis should be kept in mind.

Injury to the anterior urethra usually produces bloody urine, and dilatation is necessary to prevent subsequent strictures. If the membranous urethra is involved, there is difficulty in passing urine. One frequently finds extravasation of the urine in the anterior and posterior structures. Suprapubic cystotomy is done in urethral injuries, with the use of the retention catheter, which also provides a splint for healing, the latter being very important. The bulbous and membranous urethra may be joined together. Urethral injuries should be sounded for many months.

Trauma, plus alcohol, plus a full bladder, is a frequent story in ruptured bladder. However, there are many other causes, and there are also extra and intraperitoneal ruptures. Rupture of the anterior wall is the most common. Symptoms and signs vary according to whether the rupture is intraperitoneal or extraperitoneal; shock usually occurs in both. There is a history of inability to void, with the occurrence of bloody urine, shock, and what should be considered a surgical abdomen. Cystoscopy is helpful, along with x-ray studies; the injection of air is diagnostic and there are really no deleterious results to be expected. The best diagnostic aid is exploration with the use of a suprapubic incision, palpation of the pelvic bone, opening of the bladder and the estimation of the injury, closing the rent without draining. There is little difference in closing from the bladder or peritoneal sides. And there is little postoperative infection encountered.

In conclusion, it should be remembered that immediate operative interference is often timely in saving the patient.

DR. MATTHEW KYLIE discussed "Injuries to the Female Genitalia."

This discussion was in two parts, with reference to trauma of the external genitalia and with reference to trauma and the retrodisplacement of the uterus.

Trauma to the external genitalia is easy to diagnose, usually occurs to the vulva by a straddling fall, and also

the hymen may be injured—the injury extending along the floor of the fourchette. Such an injury is readily disposed of by simple surgical technique. Modesty often makes for loss of blood and procrastination in seeing a surgeon.

With respect to trauma causing retrodisplacement of the uterus, certain authorities believe that falls cannot figure as a cause and that this injury occurs only after severe crushing trauma. The uterus is maintained in position by the tone of the organ itself, the broad ligaments, the uterosacral ligaments, and the round ligaments, the levator ani also being important in lifting or intra-abdominal straining. If the levator is damaged, we have a different situation. The uterus must be depressed in order to be turned. The organ is about three inches long and is movable about 30 to 45 degrees from side to side and 60 to 90 degrees back and front—these being the natural ranges of motion. Trauma is not ordinarily transmitted to the uterus very much if the supports are only contused.

In an experience of seven and a half years in the coroner's office and in many so-called "jumping" suicide cases, the uterus maintains practically a normal position in spite of great trauma to the body. The presence of a full bladder does not change the uterus to a retrodisplacement, merely maintaining it in an upright position.

Cadaver experiments in cutting the ligaments show that there is no effect in cutting the round ligaments—in cutting the cardinal ligaments there is considerable descent of the uterus, which is also true with tension on the cervix. Probably the cardinal ligaments are the most important in maintaining the position of the uterus.

About one-fifth to one-third of women have retrodisplacement, most of them being born that way. Congenital retrodisplacement usually causes no symptoms. The difference is that in the congenital type the ligaments are smooth and moderately taut with no sag, whereas in the acute traumatic displacement the uterus is tender and swollen, there being some torsion on the broad ligaments and sagging of the cardinal ligaments.

There is no chronic displacement from trauma, probably only four acute cases on record—permanent traumatic displacement is not a regular occurrence, in fact it is extremely rare.

With respect to abortions, these may occur in a matter of hours after trauma. Abortions are usually due to many other causes than trauma, however.

CONCLUDING the morning clinical sessions at St. Luke's Hospital, DR. HARRY MOCK presented several case demonstrations and made comments.

The first was the case of a colored man who slipped into a tank and fractured both femurs; the left leg was amputated below the knee and there was an open reduction of the right femur done, the patient wearing a cast for five months. The patient was sent to DR. COULTER for physical therapy and then the case was sent to this hospital. There has been so much deformity of the left leg and also the plate has been removed from the right femur. Correcting the defect of the left hip began two months ago through alignment, screws and skeletal pinning. This probably will give the desired results.

Next was a case of apparent hematoma on the back which turned out to be a psoas abscess which does occur in other locations. Tubercle bacilli were recovered and there was also secondary infection. Penicillin was used and the temperature came down after five weeks. A cast was put on the right knee but discharging sinuses occurred, so the knee was fused by skeletal pinning.

DR. WILL LYON discussed a case of fractured femur in which he stressed the importance of x-raying the whole bone, because in this case there was a fracture of the shaft but there was also intracapsular fracture.

In further discussion, it was also emphasized that few changes of dressings should be made in cases of burns. It is a question of how much tissue is cooked and how much will have to come out. Prevention of infection is most important. All those who do or assist in the dressings should be masked and no one else present in the room without being masked. In the case demonstrated, the patient was burned over the entire right leg and thigh and both buttocks. Sterile gauze (with vaseline if one wishes) is applied with fluffs for elasticity and tensor bandage. Plenty of morphine should be used and full doses of penicillin. Dressing is changed on indication, at the end of two weeks, or because of fever, or sloughing.

Dressing is also done under anesthetic, cutting away the leather-like tissue in preparation for the graft—the blood should be in good condition and penicillin is administered.

In concluding the discussion, DR. KILBOURNE commented on the use of Paget's graft, the use of the dermatome, saline dressings, and pressure to flatten the granulation tissue. In the case in point, the patient was burned November 3—the first graft was done November 29. The graft should not be cut too deep. This case was dressed after one week.

Afternoon Session

DR. URBAN E. GEBHARD spoke on "Management of Industrial Fractures," beginning with the statement that he had only seen one fracture of the neck of the femur in 15 years of industrial practice; that he had also heard much discussion of discs, but certainly they did not occur much in industry.

Fractures of the phalanges are many in type and frequency. Simple fractures of the fingertips are the most simple to treat. In the compound fracture, incision is made leaving a mushroom tip, there being two methods of covering, using a skin graft after resection of some of the bones. Change of dressing, too, often causes loss of graft. A continuous stitch is used. The other method is to split the tip of the finger in a V and bring the V together.

Other fractures of the phalanges and metacarpals offer little difficulty, and may be immobilized with a simple splint.

Toe fractures have been greatly decreased by the use of safety shoes. In the fracture of the metatarsals, a hickory block is put on the shoe in front of the heel and the patient is allowed to walk when he can get his foot into a shoe—the procedure mentioned increases the curve of the metatarsals.

It has been a hobby of the speaker to pick up fractured naviculars. There was one instance where the fracture did not show in the x-ray and the patient was sent back and the radiologist requested to take the x-ray with ulnar deviation in reverse oblique—then the fracture line showed. If these cases are picked up early and immobilized healing is prompt, but if seen late, there are many troubles.

Beaded Kirschner wires are used in some cases of fracture, especially in a case of fractured malleolus.

There was instance of where a fracture of the os calcis resulted in a malignant teratona one year later.

In a fracture of the ulna, the wire wouldn't hold and screws were not efficacious, but a wire down the shaft did hold with good results.

It was the belief of the essayist that the Roger Anderson apparatus should be used with discretion—in using the apparatus in fractures of bones of the forearm, and in a case in which the apparatus was not used, the latter healed promptly.

In a crushing injury to the leg, the fragments were wired in fair position and healing began to take place because there was a bridge of bone; this patient wore a brace and unfortunately fell and cracked the original break; the cast was applied and the bone was absorbed leaving a gap in the tibia. Here a sliding graft was done with good effect.

A simple fracture of the ulna was immobilized and nine months later there was bone absorption and non-union—bone chips were put in the gap and a plate was put in; unfortunately the patient broke the plate 10 days later—a longer plate was applied with no union after one year—this was treated with a bone plate and union took place.

In a simple hairline fracture of the tibia, a cast was applied with good position—patient voluntarily took off the cast in eight weeks and found he couldn't bear his weight. X-ray showed necrosis and separation of frag-

ments along the fracture site. Sliding graft was done here after which healing took place completely. It should be emphasized that the simplest method is the best.

In compound fractures of the leg bones, the Roger Anderson apparatus was used—position was fair in the instant case but after ten weeks there was still non-union. It was thought that pins probably interfered with healing. Pins were removed and in two weeks there was no abnormal motion.

DR. EDWIN W. RYERSON commented on "Painful Conditions about the Shoulder Joint."

The first article on calcium deposits in the subacromial bursa was written by Charles F. Painter, but not much attention was paid to it. Later Codman wrote about this condition in his book. These patients have severe pain, the first case being seen by the essayist in 1914. This patient had taken salicylate, aspirin and morphine. A neurologist had diagnosed the condition as a brachial neuritis. Later on an x-ray showed a calcium deposit. The patient was given gas, the bursa incised, and the calcium deposit removed with a part of the wall. The patient recovered uneventfully, although with some stiffness of the shoulder. In this series of cases, only calcium carbonate has been recovered in these areas.

The question arises as to what is the origin of these deposits. It is believed that sudden abduction tears the fibers of the supraspinatus—usually this is the muscle involved (Brickner). Later calcium is deposited. This deposition may be a repair process, but it is not definitely known. The usual modalities do no good as treatment.

Better than to try to repair torn tendon is to take off one inch of the acromial process and to bevel off the remainder—also get rid of as much of the bursa as possible, particularly the surface or roof.

"Frozen" shoulder is usually due to an adhesive bursitis. It is painful and disabling, but helped by rest and heat. Above all, do not break up the adhesions. The etiology is not well known.

In recurrent dislocations, the forward subcoracoid dislocation is the usual type—the labrum of the capsule is torn. There are three operations used. The suspension operation is done by cutting off the long head of the biceps tendon and putting it through a hole in the humerus—this is called the Nicola operation. Henderson drilled through the acromion and tuberosity of the humerus and transplanted the tendon of the peroneus longis. However good results this may give, it does not repair the labrum. Bankhart exposed the glenoid, drilled holes in its edge, sewing the labrum on, and has reported successes.

This presentation was concluded with lantern slides of photographs of x-rays of the chest showing calcium deposits and also schematic designs of the Nicola and Henderson operations.

DR. L. F. WEBER gave a very excellent kodachrome lantern slide demonstration of "Industrial Dermatoses."

These colored slides have to be seen in order that one may get the proper impressions—it is regrettable that there is not some way of transmitting to the printed page the impresisons one gets from kodachrome slides of various types of lesions.

The exposed parts of the body were mainly considered, such as the hands, face, and arms.

In the series of slides on the hands there was dermatitis shown from soluble oils; powdered soap; in a candy-maker from the oil of cassia; the effects of resin on the nails; scabies; a nurse who had worn rubber gloves; lesions on the nails in the case of syringomyelia; bullous eruptions from lye; the lesions under the nails from hydrofluoric acid exposure.

In a series of lesions on the face, there were those due to hair dye; those due to pyrethrum; pigment on the face produced by lye; depigmentation from the use of adhesive on the face; irritation resulting from the use of a mange cure; pigment from bakelite exposure; lesions from the use of a nasal jelly; from creosote; from nail polish.

Lesions on the forearm from exposure to primrose; on the chest from exposure to meadowgrass; on the wrist from a watchband; on the legs from cement dust; on the ears from spectacle frames; on the neck and wrists from the use of sulpha drugs; on the hands from the use of picrates; on the feet from the shoes; on the knee from liniment; on the hands from coins; on the legs from adhesive; on the hands from fluoroscopic exposure; and also cases of herpes and shingles on the face, and eczema on the wrist.

CAPTAIN CHARLES E. STEBBINS completed the afternoon session with a presentation on "Early Closure of Chronic Osteomyelitis with Split Thickness Skin Grafts."

This was a most interesting presentation with colored lantern slides before and after sequestration and saucerization and also after grafting.

This was a report on 88 cases as of November 20, 1945. It was stated that Kelly, Burgess and McClintock have done similar work.

In preparing the wound, a sequestrectomy and radial saucerization is done removing dead tissue, and avoiding the creation of angles and crevices. The defect is packed with gauze for a period of five days allowing granulation to appear. Then consideration is given to doing a graft. Penicillin compresses are used to keep the defect clean.

Use is made of the Paget dermatone, taking the skin from the thigh or abdomen about 15/1000th of an inch in thickness. The grafts are sutured in the form of a sac after a measured pattern of the defect has been made, the suturing being done inside the defect—the graft must be closely approximated. The defect is then packed with glycerinized cotton (previous use being made of a mold which has been built outside the defect and covered with latex). A pressure dressing is used composed of fluff, latex, and plaster splints. Dressing is allowed to remain seven days unless there are definite indications for removal, and if infection occurs, use is made of penicillin compresses.

Statistics on these cases showed that of the 88 cases, 79 were observed 30 days or more after the graft was done—54, or 70%, healed 100% within a 30-day period—eight, or 10%, showed 80 to 100% healing in 30 days. In this series any case showing less than 80% healing in 30 days was regrafted.

In general, 2% required further treatment and 7 to 8% required a second sequestration and saucerization.

Again presenting some of the figures above with additional ones, the results were as follows: 54, or 70%, showed 100% healing in 30 days; 11, 13%, showed 100% healing after regrafting, making a total of 65, or 83%, which showed 100% healing after 60 days.

Evening Session

DR. E. A. IRVIN'S paper on "Psychosomatic Consultations in Industry" was published in full text in the January, 1946, issue of INDUSTRIAL MEDICINE.

DR. M. H. KRONENBERG concluded the sessions by presenting the subject "Re-employment of the Physically Handicapped Veteran."

Industry has been placing the handicapped for many years, but the war has emphasized these procedures. Today we select men. The Peoria Plan was developed by DR. VONACHEN through encouraging the cooperation of the various industries in the community.

Caterpillar has a heavy industry and it was realized that new employees should be taken in and handicapped individuals used to the fullest extent after Pearl Harbor. Cooperation with all departments is necessary. Job analysis was worked out for the plant and also for other industries. A community office was set up for clearance.

The company has had about 6000 men in the service, of whom many do not need special consideration.

First an interview is given by a veterans' counselor, of which there are two; then the individual is referred to the medical office which considers a personality profile. There are both medical and surgical handicaps, the former having been greatly overlooked, such as diabetics, cardiacs, and others. Two cases of pulmonary tuberculosis have been uncovered in persons discharged from the

service. Others have been found on re-entrance examinations.

The psychology of the veteran must be considered: he is anxious to get out of the service and therefore has a tendency to deny everything in the separation center; such individuals become medical problems and hence have to be reclassified.

As of January, 1945, of the 1345 individuals seen, 8.8% had been discharged for gastrointestinal disorders; 4.4% for genito-urinary difficulties; 18.6% for orthopedic conditions; 19.5% for neuropsychiatric conditions. These figures have stayed fairly constant until May, 1945, when the gastro-intestinal group dropped to 5.7%, the orthopedic group to 11.5% and the neuropsychiatric group to 11.5%. In June, 1945, a further drop occurred in the gastro-intestinal and orthopedic and neuropsychiatric groups, but the total discharge figure rose to a high—many of these, however, require no specific handling. The problem, as a whole, has become easier.

It became necessary to devise a job analysis program and to condition the minds and the procedures of the supervisory staff. These procedures and conditioning mechanisms are very necessary to provide specific placement.

There were 13 cases of head injury; 25 had visual disorders, but this presented no problem because these men were placed in only two departments. Places were also secured for those with auditory defects. Diabetics were placed in special jobs. Discharged WACs and WAVEs were directed to light work.

Among the respiratory disorders, bronchiectases and pneumothorax were examples. There were also cardiac disorders and varicosities. Gastrointestinal difficulties give a lot of trouble because they want to get on the first shift, so that they can keep their schedules of diet. Orthopedic defects dominate the picture. Among the tropical diseases are malaria, which cases must be kept out of foundries or hot areas. There are many cases of dermatitis, including fungus infestations, which should be kept away from oils, acids and solvents. The neuropsychiatric cases, on which DR. IRVIN has already given a complete discussion, present perhaps the most difficult problem. It is planned to reassign these cases to the research division where they can be quiet and alone in their work. Few epileptics have been encountered and there is difficulty in placing them in jobs where there is no moving machinery —here the community placement office helps a great deal. There have been many cases of shrapnel wounds, all of which have been classified. There has been little experience with the blood dyscrasias, but there have been some asthmatics.

In one year's experience, 935 veterans were divided into three groups: (1) fit for any type of work (624); (2) limited to specified types of work (274) and not transferable unless the medical department has been consulted; (3) very much limited—cannot meet the demands of work and need further treatment—these are referred to the veterans' coordination group in the Peoria Plan and in some instances, may be placed in other plants.

It has been found that the quits for old employees have been low, but high for new employees, because of the habit of shopping around for work. Many reasons have been given for these difficulties (approximately 20 reasons), some of them do not like the job, some of them want to go to school, and there are many other personal excuses—some giving no reason.

The question of absenteeism naturally comes up for consideration and experience has shown that the non-handicapped workers show higher absenteeism, generally speaking. A progress report is made each month on the subnormal individuals so that there is a constant check.

There are some individuals who have had 100% disability ratings by the government on discharge from the service. Naturally more time is spent with these persons and also better supervision is given to these employees. It appears that when there is more than 30% disability, a problem is presented.

Finally, the neuropsychiatric cases and those allied to them are more difficult and take more time. It has been found that floral therapy for neuropsychiatric cases helps a great deal.

The Organization of a Mental Hygiene Unit

—In Industry—

KEEVE BRODMAN, M.D.,
New York City

DURING the past five decades marked changes have taken place in the attitude of industry towards the health of its employees. Fifty years ago, legislation was often necessary to force industrial plants to use safety devices, to develop physical facilities that promote public health, and to give adequate medical care to injured workmen. Now in many instances, industry has voluntarily assumed entire responsibility for the maintenance of a high level of health in its employees. This change has resulted from management's realization of two facts: first, that an employee cannot work at maximum efficiency and productivity unless he is in good health; and second, that health is a commodity that can be purchased on a large scale. Because it is cheaper to buy this commodity and give it without cost to employees than to suffer the financial loss resultant from employees operating at a low level of productivity, industry has embarked on extensive programs aimed at improving the health of its employees.[1,2,3,4,5,6]

Industry is beginning to realize that mental as well as physical health affects working efficiency. Industrial mental hygiene programs are needed not only to care for employees with significant degrees of personality disturbance, but also for the "well adjusted" employees, who under stress develop neurotic symptoms,[7,8] and manifest such industrially important symptoms as absenteeism and inefficiency.[9,10] It is estimated that one employee out of five needs guidance in adjusting to industrial living.[11]

It is desirable at this time to review the services an industrial mental hygiene unit can offer to employees and to management.[12,13] It is unlikely that any single unit will be extensive enough to offer all these services; the program of each unit depends on the most pressing needs of the industrial organization it serves, and on the interests of its professional staff.

The purpose of this report is to review the organization and procedures of a unit that has as its aim the maintenance of the highest possible level of mental health in employees.

Organization

INDUSTRIAL mental hygiene is concerned not only with the small group of workers with incapacitating neuroses, but more especially with psychoprophylaxis for all. Problems of morale, motivation and work attitudes as well as those of personality disturbance are industrially important.[14] The organization of a mental hygiene unit should therefore be broad enough to permit management of these problems.

The plan of such a unit is shown graphically in Fig. 1; the details are described below.

STAFF: A single psychiatrist can carry out a limited program; as the work becomes more extensive, the professional staff will include one or more psychiatrists, psychologists, social workers (industrial counselors), and statisticians. Part time workers with outside interests and experiences bring to the unit new points of view on industrial problems.

NAME: Gossip spreads rapidly in a firm. Because of this employees often refuse to ask for help with their emotional problems. They do not want it known

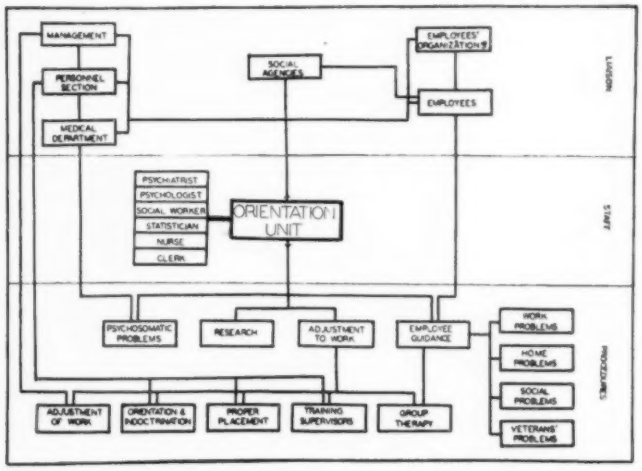

Fig. 1.

that they are "seeing a psychiatrist." It is therefore desirable that the industrial psychiatrist and mental hygiene unit be designated with names that are not emotionally charged, and do not contain the root "psycho" or the word "mental."

The term "Orientation Unit" is offered for the mental hygiene unit, since it attempts to orient the employees in industrial living and to orient management to the emotional needs of the employees. The psychiatrist can be referred to as "the physician in the Orientation Unit," or simply as another "counselor" or "consultant." Other members of the staff who interview employees can be known as "counselors" or "consultants."

LIAISON: In order to function efficiently, the orientation unit needs satisfactory liaison with three groups: the medical department, the management and the employees.

In many organizations, it has been found most satfactory to have the unit organized as part of the medical department. In any case, the work of the unit is facilitated if the members of the medical staff have an interest in those problems of human relations in industry with which the unit is concerned. The unit can offer a direct service to the medical department by acting as consultants in personality and psychosomatic disorders.[15]

Since the unit receives its financial support from management, it is obvious that liaison must exist between the two. The personnel section is usually the most interested in the work of the unit, since the problems of the two are so often identical.

In the past, employees and their organizations have sometimes been suspicious of innovations such as a psychiatrist or a mental hygiene unit. Employee organizations now have themselves become interested in mental hygiene.[16]

Procedures

Two of the means an orientation unit can use to accomplish its aim of maintaining the highest possible level of mental health among employees are counseling of employees, and improving their emotional adjustment to work.

COUNSELING: Employees are at times confronted with personal problems on which they want an opportunity to express their feelings. These problems have to do with work, family adjustments, aspiration, anxieties or emotional disturbances. Industrial counseling programs have tried to help employees during their periods of emotional stress.[17,18] Counseling need be neither excessively expensive nor time consuming, and the results in terms of personal happiness and increased productivity would seem to justify the expenditure. It is surprising how trivial are the sources of many behavior difficulties in the industrial situation, and how quickly they are corrected by an opportunity for verbal expression.

Foremen, as the employees' immediate and most intimate leaders, become effective agents in relieving employees' emotional tensions, if taught how to recognize the more obvious signs of emotional disturbances and taught how to listen. More complex problems are handled by trained counselors. The Cornell Index is a useful instrument for the rapid assay of individuals needing counseling or further psychiatric appraisal.[19]

If notes are taken in the presence of the employees during interview, many of them not only manifest reluctance to discuss their personal affairs, but moreover develop a strong conviction that their confidences are being passed on to management to be put into a "black book." Since employees must be convinced that records of interview never will be made available to management, many employee counselors make it a policy never to take any notes except for teaching purposes.

In certain cases, community organizations are able to assist the employees in adjusting to their problems.[20]

The aim of all counseling and psychotherapy in industry is sharply limited: to aid the employee in adjusting to his industrial duties, and not to reconstruct his personality.

IMPROVEMENT OF THE EMPLOYEES' EMOTIONAL ADJUSTMENT TO WORK: The procedures are: (1) induction (orientation and indoctrination), (2) training foremen in leadership, (3) placement of employees at work for which they are best suited, (4) adjustment of the work arrangements, and (5) group therapeutic procedures.

INDUCTION: This is the introduction of the new employees to their work, and is comparable to the orientation and indoctrination of recruits in the armed forces. It aims at the relief of the uncertainties employees feel when taking up the duties of a new job. It seeks to place the employee at work rapidly, effectively and with a minimum of confusion and anxiety on his part.

In most companies, induction is carried out by members of the personnel section, with the help of the orientation unit if there is one. New employees are seen in individual and group consultation on the day they report for work, and these consultations are supplemented by the distribution of printed material. The following topics are usually covered:

1. A brief history of the firm, including a review of labor-management relationships, emphasis being on the interest each has taken in the other's welfare.
2. A description of the work the firm does, how the work is handled, and the part the new employee will take in carrying out the work.
3. A discussion of those phases of the work that might cause emotional tension, such as monotony, noise, heat, or the need for accuracy; and a discussion of how to recognize and avoid such tension.
4. Financial matters, including hours of work and method of payment of wages; vacations, promotions and raises in pay.
5. Arrangements for lunches, rest and recreation rooms; general layout of the plant or office.
6. The medical department and the services it gives, limitations of services, what to do if sick at work or at home, hospital and sickness plans.

7. Finally, a personal introduction to the foreman of the department in which the employee is to work, and by the foreman to other men in the department.

In some firms, these topics are covered in several instead of one consultation. If, as is often the policy, the new employee is seen again a week or two after employment to discuss any problems he may have encountered, this affords an opportunity to establish rapport with the employee and to notify him of the availability of the orientation unit for further consultation and counseling.

Old employees are kept up to date on changes in the firm by means of plant publication, notices on the bulletin boards, and discussions with their foremen who have themselves been notified of these changes at foremen's meetings.

TRAINING FOREMEN IN LEADERSHIP: There is no general agreement as to what constitutes "leadership" or how it can be recognized and developed. Besides being able to "lead" men and win their respect, a foreman also needs technical skill, organizing ability, initiative, judgment and the capacity to assume the responsibilities of leadership without developing disabling anxieties or depressions.[21]

Many companies attempt to foster leadership abilities in their foremen. The means generally used are:

1. Frequent meetings of the foremen with their superintendents and members of the orientation unit, and the distribution of printed material. In these, the principles and practical aspects of leadership are stressed.

2. Education of the foremen through meetings and printed material in the recognition, handling and prophylaxis of emotional disturbances in their men.

3. Discussions of the foremen's own personal problems with members of the orientation unit. The orientation unit is especially effective when it gives attention to the foremen, since they exercise a direct influence on the rest of the employees.[22,23]

PROPER PLACEMENT OF EMPLOYEES: It is highly undesirable to disqualify from further work those employees who at certain times manifest evidences of a personality disturbance. Such action would eliminate a large segment of the working population, since almost everyone at one time or another and under certain conditions develops neurotic symptoms.

The presence of a personality disturbance may at times even be an advantage on the job instead of a handicap. For instance, individuals with a low level of aspiration do well at routine work. Those with anxieties that lead them to check and recheck their results are suited for certain types of precise work. The problem thus becomes one of placing the employee where he will be most productive, and not of eliminating him as a worker.

The placement of an employee in a job with which his personality does not conflict is affected on the basis of knowledge about the emotional strains the job produces and the type of work the employee can best handle. The difficulties of proper placement are well known, despite the use of aptitude tests and psychiatric consultations, and of a history of the employee's previous job experiences. A trial period at work is often the only practical test. It is emphasized again that the object of such tests and consultations is not to prevent certain individuals from obtaining and keeping jobs, but to place everyone at work where he can be most productive.

ADJUSTMENT OF THE WORK ARRANGEMENTS: The emotional strain engendered by certain work situations—noise in a foundry, heat from a furnace, the necessity of strict and tiring attention to detail—may at times be alleviated by changes in routine. The proper changes can be instituted after appropriate time studies.

GROUP THERAPEUTIC PROCEDURES: Group therapeutic procedures are of two general types: those that instruct the employee in how to recognize, overcome and avoid his emotional disturbances; and those that utilize the group in which the employee works, seeking to have the employee closely identify himself with the group and to make its community aims his own.

In the first type, employees are brought together for discussion of mental hygiene; these are supplemented by printed material. Such topics are covered as fear, nervousness, tension, moods, anxieties, emotional disturbances at work and at home, and psychosomatic manifestations of emotional stress. The attempt is made to clarify the mystery of emotions and behavior, to prepare employees to meet emotional disturbances as they arise, and to encourage them to seek help when their problems become difficult.

The second type of group therapy aims at making the employee an integral member of the department in which he works, and to join in the group effort to achieve a common objective. This objective is usually a recognition or reward for outstanding group accomplishment. Employees in a group are subject to the usual stimulating influences of being members of a team.[24]

Investigative Work

AN IMPORTANT function of the mental hygiene unit is to conduct investigations to uncover information about human relations in industry. There is an obvious need for information to help orient employees and management in handling their inter- and intra-personal problems.

Summary

A MENTAL hygiene unit in industry has as its aim the maintenance of the highest possible level of mental health in employees. The accomplishment of this aim benefits management as well as the employees.

2. The organization of an industrial mental hygiene unit, the liaisons that are necessary, and the procedures it uses are reviewed above.

Bibliography

1. ADAMS, J. M.: Stancola Medical Care Plan. *J.A.M.A.*, 126: 333-335, October 7, 1944.

2. BLOOM, M. S.: Variations in Current Industrial Medical Service Plans. *J.A.M.A.*, 126: 335-337, October 7, 1944.

3. GARFIELD, S. R.: Health Plan Principles in the Kaiser Industries. *J.A.M.A.*, 126: 337-339, October 7, 1944.

4. JONES, E. M.: The Endicott-Johnson Plan. *J.A.M.A.*, 126: 339-341. October 7, 1944.

5. WITTMER, J. J.: Variations in Current Industrial Medical Service Plans. *J.A.M.A.*, 126: 344-346, October 7, 1944.

6. SELBY, C. D.: The General Motors Medical Plan for Health and Safety. INDUSTRIAL MEDICINE, 13: 194-198, February, 1944.

7. THOMPSON, G. N.: War Engendered Psychiatric Problems in Industrial Medicine. INDUSTRIAL MEDICINE, 13: 686-689, September, 1944.

8. ROSS, H. G.: Human Behavior and Its Relation to Industry. *Canad. M. A. J.*, 50: 202-208, March, 1944.

9. BRODMAN, K.: Absenteeism, Working Efficiency and Emotional Maladjustments in Groups of Employees. INDUSTRIAL MEDICINE, 14: 1-5, January, 1945.

10. BRODMAN, K.: Rates of Absenteeism in Relation to Employees' Work Attitudes. INDUSTRIAL MEDICINE, 14: 953-957, December, 1945.

11. GIBERSON, L. G.: Industrial Psychiatry. Chapter 14, in Manual of Industrial Hygiene, Wm. M. Gafafer, Ed., Philadelphia, W. B. Saunders Co., 1943.

12. ANDERSON, V. V.: Psychiatry in Industry. *Am. J. Psychiat.*, Centennial Anniversary Issue, 134-138, 1944.

13. MARKUSON, K. E.: The Role of the Plant Physician in an Industrial Mental Health Program. *Ment. Hygiene*, 29: 110-113, January, 1945.

14. MAYO, E.: The Human Problems of an Industrial Civilization. New York, The Macmillian Co., 1933.

15. MITTELMANN, B., WEIDER, A., VONACHEN, H. A., KRONENBERG, M., WEIDER, N., BRODMAN, K., and WOLFF, H. G.: Detection and Management of Personality and Psychosomatic Disorders Among Industrial Personnel. *Psychosomatic Medicine*, 7: 359-367, November, 1945.

16. FOUNTAIN, C. W., Labor's Place in an Industrial Mental Health Program. *Ment. Hyg.*, 29: 95-101, January, 1945.

17. CANTOR, N.: Employee Counseling. New York, McGraw-Hill Book Co., 1945.

18. WOODWARD, L. E., and RENNIE, T. A. C.: Jobs and the Man. Charles C. Thomas, Publisher, 1945.

19. WEIDER, A., BRODMAN, K., MITTELMAN, B., WECHLER, D., and WOLFF, H. G.: The Cornell Index: A Method for Quickly Assaying Personality and Psychosomatic Disturbances. To Be Used as an Adjunct to Interview. *Psychosomatic Medicine*, 8: (in press).

20. WEBSTER, H. G.: Contribution of Community Organizations to Industrial Mental Health. *Ment. Hyg.*, 28: 49-54, January, 1944.

21. FLANNAGAN, N. S.: The Promotion Depression. *J.A.M.A.*, 120: 1383, December 26, 1942.

22. STREET, R. F.: Selection and Training of Leaders as Factors in Industrial Mental Health. *Ment. Hyg.*, 28: 41-48, 1944.

23. HIMLER, L. E. :Psychotherapeutic Aspects of Foreman Contacts. *Ment. Hyg.*, 20: 106-110, 1945.

24. ROME, H. P.: Military Group Psychotherapy. *Amer. J. Psychiatry*, 101: 494-497, January, 1945.

Edrisal in the Treatment of Dysmenorrhea

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WHERE discomfort is associated with lethargy and depression, improvement in the mental attitude is a highly desirable supplement to analgesia. The central stimulation produced by benzedrine sulfate includes a unique psychic component which has made it particularly valuable in the management of asthenic states and depression.[1, 2, 3] This drug has proved very effective in relieving both physical and mental symptoms of dysmenorrhea.[4, 5, 6, 7] The anti-depressant factor appears to play a very significant role in the control of menstrual discomfort, and patients emphasize the feeling of well-being and increased energy typically observed after benzedrine. It is of interest to note, also that several investigators have observed a reduction in sensitivity to painful stimuli following the administration of benzedrine.[8, 9, 10, 11]

Edrisal* is a new combination in which the stimulant effect of benzedrine sulfate has been combined with the analgesic action of two widely used substances. Each Edrisal tablet contains:

Acetylsalicylic acid	0.16 Gm. (2.5 Gr.)
Acetophenetidin	0.16 Gm. (2.5 Gr.)
Benzedrine sulfate	2.5 Mg. (1/26 Gr.)

In the present study, Edrisal was used for relief of dysmenorrhea in approximately 200 office employees reporting routinely to the medical department of a large business concern. The study covered a period of 10 to 12 months. On the basis of a medical examination made at the time of application for employment, each of these subjects was considered to be in sufficiently good health for normal physical activity. Applicants with cardiac, cardiovascular or chronic pulmonary pathology were rejected for employment, as were those having arthritis, diabetes, extensive dental caries, chronic upper respiratory infections, functional and organic nervous disorders, or any other demonstrable clinical entity which might handicap physical activity.

Unfortunately, industrial medicine as regulated in this business unit did not permit pelvic examination, and no specific examinations of any type were made to determine the cause of dysmenorrhea in the individual case. The study was therefore limited to a record of the subjective response to medication. Since the employment turnover was extremely high, it was not possible to obtain information from each of the 200 subjects. Each subject available, however, was asked to complete a questionnaire. On the basis of replies submitted, the following data were secured.

*Smith, Kline & French Laboratories.

Incidence and Severity of Dysmenorrhea

A TOTAL of 84.6% of the subjects experienced pain during every menstrual period. These included all instances of severe pain and heavy time loss (7-8 hours). In the remainder (15.4%) discomfort occurred only at each second or third period. The pain was described as severe in 63.4%, moderate in 10.6%, mild in 26.4%.

Time Loss

OF THE entire group, 36.5% stated that no time was ordinarily lost from work during menstruation. The remaining 63.5% of the subjects reported a time loss ranging from one half-hour to the entire first day of the menstrual period. This group lost an estimated total of 632 working hours each month. In terms of the seven-hour working day, dysmenorrhea was therefore responsible for a monthly loss of more than 90 days.

Treatment

DOSAGE. Early in the study it was found that the symptoms of dysmenorrhea were relieved most effectively by two tablets of Edrisal. This amount was then used routinely for all subjects and in nearly all cases was given at the onset of the period. It was rarely necessary to repeat the initial dose.

EFFECT ON PAIN. Complete relief of discomfort during menstruation was reported by 61.5% of the subjects. Another 34.6% experienced partial relief. Those few subjects (3.9%) who were not relieved by the first dose of Edrisal showed no better response to a second dose. In no instance were any untoward side effects noted.

EFFECT ON MENTAL DEPRESSION. Only 28.8% of the group ordinarily experienced frank depression during the menstrual period. In every one of these subjects the depression was relieved by Edrisal. The subjects as a whole, however, were particularly impressed by the feeling of well-being produced by the drug. This effect was reported by 88.4% of the entire group, and enabled many of the subjects to return to work even when the pain itself was not completely controlled.

EFFECT ON TIME LOSS. With Edrisal medication, the total time loss attributable to dysmenorrhea was 174 hours per month. This represents a reduction of 72.5%, with a saving of 458 hours (65.4 working days) each month.

COMPARATIVE EFFECTIVENESS OF EDRISAL. In the absence of control groups, some comparative data were obtained by asking the subjects what medication they found most effective in controlling the discomfort of the menstrual period. Their replies are summarized below.

Edrisal	Preferred by 63.5%
Peralga	Preferred by 25.0%
Midol	Preferred by 1.9%
No Preference	9.6%

The study of Edrisal in the treatment of dysmenorrhea will be continued. At present, the following points are of interest to the physician who is called upon to treat the distressing symptoms of the menstrual period:

1. Edrisal, a new analgesic compound, was used in the treatment of some 200 cases of dysmenorrhea.

2. A single dose of two tablets provided complete relief of pain in 61.5%, partial relief 34.6%. Thus more than 96% of the subjects were benefited.

3. A total of 88.4% reported a sense of well-being following Edrisal and emphasized the importance of this factor. Mental depression was always relieved.

4. Loss of time from gainful occupation was reduced 72.5% by administration of Edrisal.

5. No unfavorable reactions to this medication were reported.

References

1. NATHANSON, M. H.: New Adrenalin-like Compounds: Their Action and Therapeutic Application. *California & West. Med.*, 57:301-307, November, 1942.

2. REIFENSTEIN, E. C., JR., and DAVIDOFF, E.: The Psychological Effects of Benzedrine Sulfate. *Am. J. Psychol.*, 52: 56-64, January, 1939.

3. MYERSON, A.: Effect of Benzedrine Sulfate on Mood and Fatigue in Normal and in Neurotic Persons. *Arch. Neurol. & Psychiat.*, 36:816-822, October, 1936.

4. JANNEY, J. C.: Medical Gynecology. W. B. Saunders, Philadelphia, 1945, pp. 70, 302, 303.

5. TAYLOR, Z. E.: The Symptomatic Treatment of Functional Dysmenorrhea by Amphetamine (Benzedrine) Sulfate. *New England J. Med.*, 224:197-200, January 30, 1941.

6. BROWN, W. B.: Benzedrine Sulfate in Dysmenorrhea. *J. Missouri State M. A.*, 39:253-255, August, 1942.

7. HUNDLEY, J. M., JR., et al.: Dysmenorrhea—Including Clinical and Pharmacological Studies on Benzedrine Sulfate. *Med. Clin. North America*, 23:273-293, March, 1939.

8. BURRILL, D. Y., et al.: The Pain Threshold Raising Effects of Amphetamine. *J. Dent. Research*, 23:337-344, October, 1944.

9. GOETZL, F. R., et al.: The Analgesic Effects of Sympathomimetics and the Combination of Morphine with Amphetamine. *Proc. Inst. Med. Chicago*, 15:87-88, April 15, 1944.

10. ORZECHOWSKI, G.: Uber Den Wirkungsmechanismus Der Sympathicomimetica. XIII. Wirkungen Von Sympathicomimeticis Auf Den Sensiblen Nerven. *Arch. F. Exper. Path. U. Pharmakol.*, 202: 79-84, July, 1943.

11. KIESSIG, H.-J., and ORZECHOWSKI, G.: Untersuchungen Uber Die Wirkungsweise Der Sympathicomimetica. VIII. Uber Die Beeinflusbung Der Schmerzempfindlichkeit Durch Sympathicomimetica. *Arch. F. Exper. Path. U. Pharmakol.*, 197-391-404, May, 1941.

DR. PILGRIM

ENGAGED in extensive research and examinations on a series of munitions cases coming up for compensation hearings, these being complex problems and necessitating much planning and thought. . . . AND meeting with the publicity committee of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, COOK, KNOLL, WALWORTH, and others, relative to plans for the April meetings; and then to the regular monthly dinner meeting of the Chicago Section of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, where DR. L. E. HAMLIN discoursed interestingly on "The Significance of Dust Exposure in Grinding Operations," and H. H. VALIQUET on "Ventilating of Grinding Machines and Other Foundry Machines," the meeting ending with the exhibition of a sound motion picture made by Mine Safety Appliances Co., entitled "The Air We Breathe," this being well done in many details, but reminding PILGRIM of the necessity of having professionals select the incidental music for such productions, realizing that it is most difficult indeed to pick out appropriate types of music for the background. . . . AND occupied with the writing of book reviews and with editorial work of various kinds, and catching up on reports and correspondence . . . WHENCE to an anniversary celebration with the GARDINERS, FAIRBAIRNS, and CUMMINGS, and at which there were libations and mathematical computations . . . AND to industrial plants for periodic examinations and the consequent problems of employee adjustment. . . . AND preparing material for lectures and addresses, not only of medical interest but also of interest to industrial hygiene engineers and personnel managers. . . . AND at luncheon with DR. D. M. MCDONALD, of Akron, Ohio, and FRED MALLETTE, talking of the many problems of present-day medical supervision in industry, and especially interested in the pioneering of Firestone Tire & Rubber in establishing a dental dispensary many years ago. . . . AND arranging for journeys to Cincinnati, Joplin, Lafayette, and St. Louis, including appraisals of medical services in industry, investigating compensation claims, giving lectures, and listening in on the proceedings of certain scientific sessions. . . . AND meeting with the convention committee of the A.A.I.P. & S. and the A.I.H.A., with WARREN COOK and TAD ALLEN, and DRS. DRUECK, WILLEMS, GARDINER, BROWNING, SLOBE and HOLMBLAD, where much converse on the arrangement and set-up of the April meetings and the details of proper facilities for the smooth running of the programs. . . . AND then to Cincinnati, conferring with industrialists, physicians and nurses, relative to an existing program of medical supervision, in connection with plant inspections and conferences; and later to the dinner meeting of the Cincinnati Chapter of the Society for the Advancement of Management, where ALLEN H. MOGENSON spoke on "Labor Relations and Work Simplification," reminding PILGRIM of the time when he and Mogenson were on the program together at the Time and Motion Study Clinic of the Industrial Management Society several years before, and MOGENSON called attention to what is happening in industry, in the most dramatic way, reading extracts from "Pattern of Survival," by Everett Smith, and referring also to the publication of the National Association of Manufacturers entitled "Three to be Served". . . . AND before the Illinois Industrial Commission in the hearing of a case in which again evidence was admitted to the effect that the claimant had silicosis, when there was no evidence of it on the x-ray film of the chest and nothing in the exposure which could possibly have given it to him—allegations with such failure of proof being now a common occurrence in these proceedings. . . . AND to a preview of the motion picture, with sound track, produced by General Motors entitled "Doctor in Industry," remarkably well done, especially depicting the trials and tribulations of the pioneering physician in industry whose ideals and objectives were nevertheless not the least clouded by his difficulties. . . . AND planning an extensive trip into Kentucky for the investigation of a large series of claims relative to pending compensation cases. . . . AND consulting with a local physician relative to the possible occurrence of ill effects from exposure to carbon tetrachloride, used as a cleaning fluid at home—with no industrial or occupational relationship. . . . AND to southwestern Missouri by train for the investigation of a group of munitions cases, and conferences with industrialists and physicians, and including plant inspections with reference to etiology and diagnostic procedures in these cases; reading enroute excellent abridgements of "The Zebra Derby," which is among the most humorous of modern writings, and "The Ciano Diaries," which are the most tragic by comparison. . . . AND again in conference with industrialists and attorneys on details of an approaching compensation hearing; and concerned with the usual yearly mathematical problem of income tax reports, and with material for future lectures and presentations, and with investigation journeys, coast-to-coast, of which more later.

Early Activity

THE patient who stands, walks and sits up from the first day after a major operation recovers more promptly, more safely and more comfortably than the patient who remains quietly in bed for the customary time, asserts a Cooperstown, New York, surgeon. Incidences of pulmonary and vascular complications are also reduced. Among the few contra-indications to early exercise are generalized peritonitis, extreme weakness, serious bleeding or immediately after operation, thyroid crisis, coronary thrombosis and pulmonary embolism.

—*Modern Medicine Topics*, March, 1946.

Taxes and Security

A SOUTH AFRICAN native was told he had to be taxed because the government, like a father, protected him from his enemies, cared for him when he was sick, fed him when he was hungry, gave him an education and, for these reasons, needed money. The old native said: "Yes, I understand. It is like this: I have a dog, and the dog is hungry. He come to me and begs food. I say to him, 'My dear faithful dog, I see you are very hungry. I am sorry for you. I shall give you meat.' I then take a knife, cut off the dog's tail, give it to him and say: 'Here, my faithful dog, be nourished by this piece of meat'."

—*Clinical Medicine*, March, 1946.

One of the Boys Offers a Cigar Box to Hold the First Aid Kit

The Beginning Medical Department

". . . . 'Disinfecting' His Wounds with Chewing Tobacco"

"Doctor in Industry"

—General Motors Dramatizes Industrial Medicine through the Life Story of an Industrial Physician—

GENERAL MOTORS Corporation, in a 55-minute moving picture with sound, has portrayed with really professional excellence, and with a fine sense of the dramatic values in which this field is abundant, the highlights of the history and development of industrial medicine. This is done by way of the story of a fictitious Dr. Kenneth W. Randall—the embodiment and personification of all the physicians and surgeons who have made their careers in industrial medical practice.

Young Dr. Randall fresh from his internship, starts out with his father, who is a very successful and well-established surgeon in his home town. Called from his bed in the night to attend an injured mill-worker, he goes into the plant to find the unfortunate man's fellow-workers busily disinfecting his wounds with chewing tobacco. This scene dates not only the beginning of the young doctor's career but also the period, pre-World-War-I, during which that career began.

The development of the young doctor's growing interest in industrial accidents and their treatment; his voluntary undertaking to go into the plant at certain hours every day; the antipathy of his father to the kind of work the son had selected, and the resulting estrangement of the two; the often-evidenced disapproval of the private practitioners; the dawning of appreciation in the managerial mind of the need for, and the advantages of, a plant doctor; the establishment of the initial first-aid department, "in a cigar box"; the embryo of the sturdy growth that is now "preventive" medicine —all of these are excellently and—as every medical director will recognize—factually depicted.

THEN comes World War I, from which Dr. Randall returns as a medical officer to pick up his duties in the plant and carry them forward. The way he does this—with an expanding interest on his own part, and the resulting plant-wide effectiveness of the medical services and industrial hygiene measures he succeeds in having adopted—is strikingly shown.

The recital then moves into World War II, when the importance of the many things the now well-established Dr. Randall had

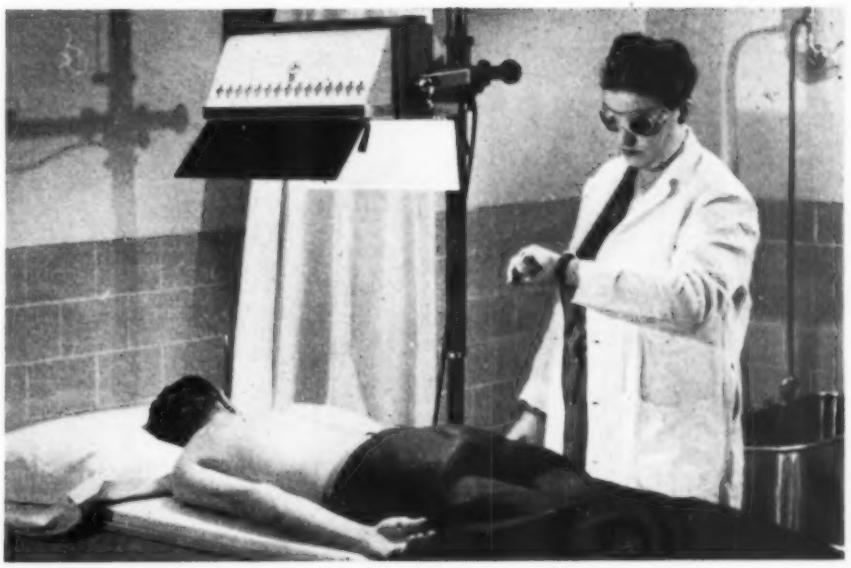
accomplished comes into the fullest recognition on the part of both industry and medicine as indispensable to the country's war effort, and the men who were its pioneers begin to be honored by the medical societies.

All of this culminates in a banquet scene where the recognized ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS bestows upon Dr. Randall its highest distinction by way of the annual award for the most outstanding contribution made to industrial medicine during the year. This award—not named in the film, but suggestive of the Knudsen award—is given Dr. Randall for his particular and most recent accomplishments in the rehabilitation of returned veterans of World War II. The ways and means of this rehabilitation are well illustrated in cut-backs during the description by a Marine Sergeant of his own successful readjustment to a kind of work he was able to do.

A final scene discloses the young doctor's father no longer estranged but applauding the professional honor to his son as loudly and enthusiastically as everyone else.

THE picture as a whole is predominantly on the human-interest rather than the technical side, although it is liberally spotted with short scenes of methods and apparatus used in the medical and hygiene programs so universally the rule in General Motors plants, and there are a number of glimpses of doctors, nurses and technicians at work in their immediate environment of the medical department and the laboratory. These blend with the story to produce a nicely-balanced portrayal of the development of the science of industrial medicine, while emphasizing the inseparable interdependence of its human and its technical phases. With all of this, however, it is an absorbing story, "well-digested in the scenes," and having even a love interest which is so wholly American, and so wholesomely human, as to carry a real punch. It is everywhere gripping and dramatic, without being in the least melodramatic.

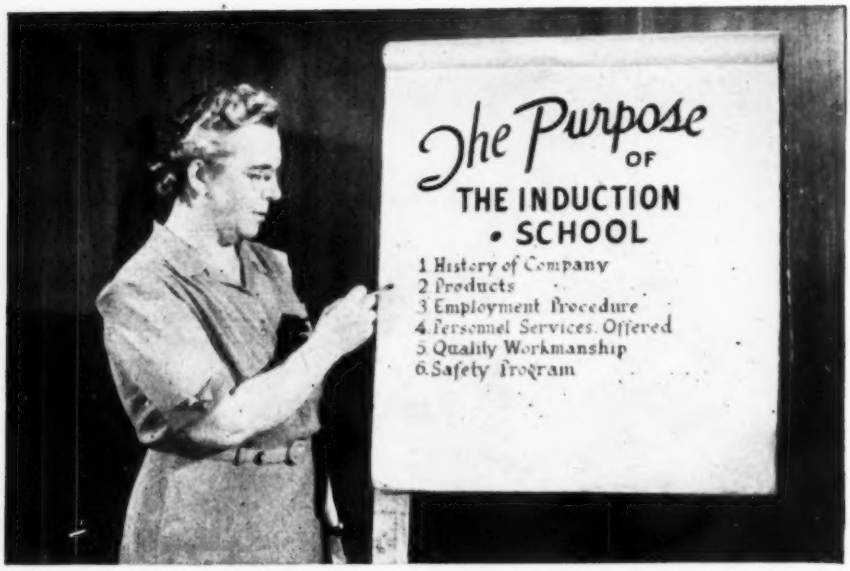
One is a little reminded of Cronin's book, "The Citadel," particularly in the struggle of the young doctor against certain entrenched animosities of the medical profession toward industrial medicine in its early stages, as well as in the suspicions and resentments of the industrial people—both employer and employee—whom it most helped. But any similarity to "The



Physical Therapy—Technician and Technique

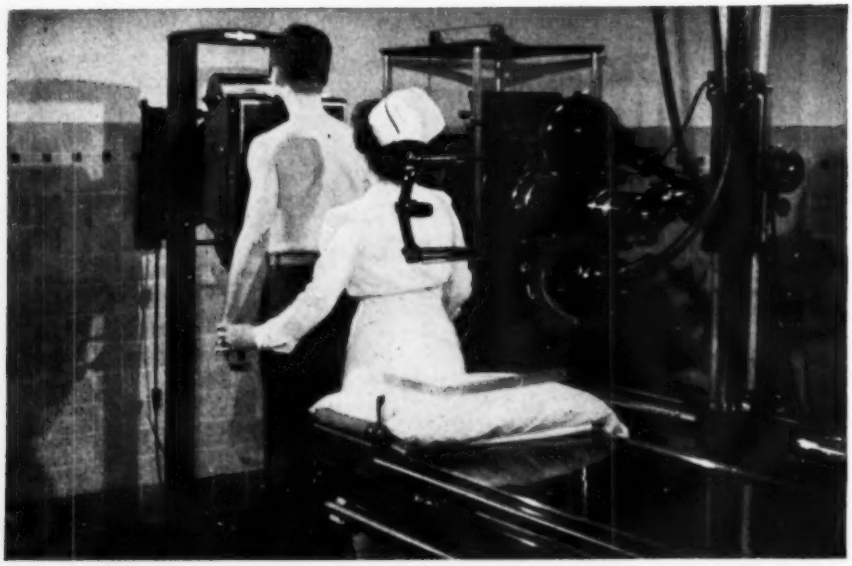
Industrial Hygiene Laboratory

Dr. Earl Lutz—Interested in Blood Pressure



Iva G. Wait, R.N., AC Spark Plug Division, Women's Counselor

Nurses in the Modern Record Room



X-Ray—Technician and Technique

Citadel" ends there, for this is American history, as distinguished from British fiction. The word "fiction" is used advisedly. When Dr. Donald Hunter, Editor of the *British Journal of Industrial Medicine*, and Dr. Richard Schilling were visiting here last fall their study of industrial medicine in this country took them to a factory where the medical department was situated across the hall from the plant library. Looking into the library, Dr. Hunter saw a young woman at the desk, picking up "The Citadel." He asked her if she was going to read it. When she replied that she was, he said, emphatically: "Remember this—that it isn't true!" And he went on to tell the slightly startled but greatly interested young lady what, and where, and why.

"Doctor in Industry," however, *is* true. The story is authentic; the characters are real; and the incidents of the pre-war periods have been duplicated in the experiences of the several hundred industrial physicians who began as pioneers of industrial medicine in the days when there were only pioneers in it; while the scenes of the present and the recent past could easily have been taken from almost any of a thousand industrial situations. Indeed, there are many industrial physicians who could easily believe, when they see it, that they are witnessing their own autobiographical epitome—all the way through from the dim and difficult beginning to the bright and respected present.

ON THE WHOLE, the film is an artistic triumph in that it leaves the observer who is familiar with the history and background as well as the present extent and importance of industrial medicine, with a feeling of suppression and restraint which is difficult to analyze. The treatment is not overdone, but instead seems understated, having been handled in the exact manner that would not cross the line between the one and the other. This needed artistry, and a delicate sense of discrimination—all so tactfully applied that in no sense is the picture an advertisement, not even for General Motors. This is as it should be, and it invests the production with enough of the qualities of real literature to suggest that a book version would be interesting, if not, indeed, widely read. Such a book, however, would need the same intimate first-hand knowledge of the subject, and the same sympathetic assaying of values

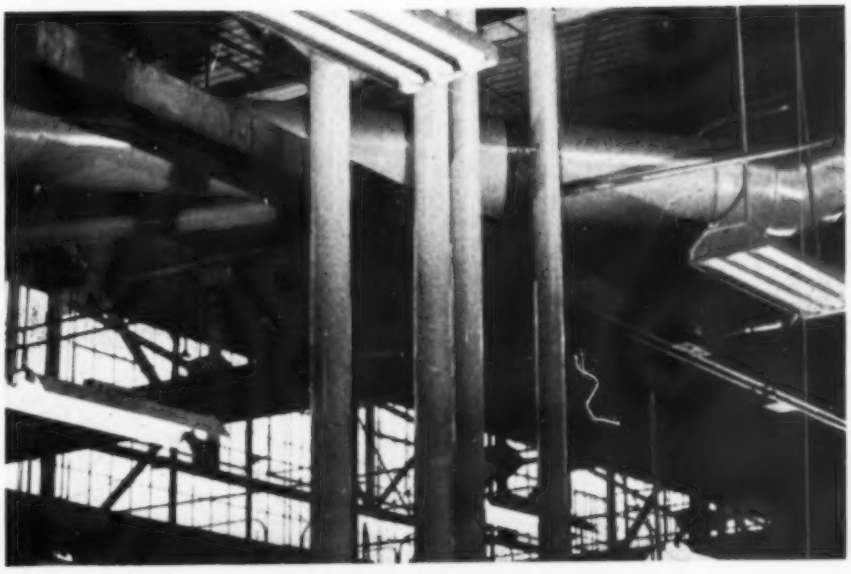
that now characterize the film; it could not be written by a ghost writer.

In addition to its integrity as an historical dramatization this film is to be highly commended for the thoroughly professional manner in which it is done. The casting is superb. Dr. Randall is played by a young man who has been successful on the stage, and the other characters show professional authenticity in all that they portray. Even the doctors and nurses, caught in the routines of their work, might easily have been cast for their parts, so well do they do them. The film is a product of the Jam Handy Organization. The photography is top-flight. In mechanical excellence as well as scenario and acting, Hollywood could be proud of this picture as one of its better productions.

DOCTOR in Industry" is having its premiere showing at the Annual Dinner of the Conference on Industrial Health at the Hotel Sherman, Chicago, Thursday, April 11, 1946. Following this it will be widely exhibited throughout the country. The more extensively it can be shown, the better. Its public relations value will be inestimable. With drama, suspense, interest, entertainment, and the background of historical truth, this picture has everything needed to bring industrial medicine to the attention of the public in the right way. In this respect it is particularly timely just now, because of certain propaganda-inspired attempts to present general medicine unfairly, and industrial medicine not only unfairly, but also untruthfully. But this picture's complete rout and disproval of the "social" attack on industrial medicine is merely incidental—for who will be distracted by a magic-lantern in a closet when there's a shower of stars in the sky? If, as the adage say, "a picture is worth a thousand words," this—being not only "a" picture, but a *very special picture*—will reckon its worth in millions. For "Doctor in Industry" tells the story of industrial medicine, its growth and development, and how, in cooperation with non-industrial physicians, and with the blessings of management, industrial medicine is contributing to steady improvement in the health, safety and general well-being of employees in industry. This story is remarkable and fascinating in itself, and it loses nothing of interest and value in this absorbing portrayal in terms of the life of Dr. Kenneth W. Randall.

Dr. Max Burnell, and the Marine Veteran Beginning His Rehabilitation

The Marine Sergeant Yields a Blood Sample



Modern Exhaust Ventilation System

NATIONAL CONFERENCE ON INDUSTRIAL HEALTH

—Chicago, April 8-13, 1946—

In these, their first peace-time meetings, the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, the NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, the AMERICAN ASSOCIATION OF INDUSTRIAL NURSES, and the AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS approach the health problems of reconversion and peace with the same united spirit in which they met wartime emergencies of occupational accident and disease. The well-being of America's workers, the conservation of industrial manpower, and the future of our economy are all dependent on a coordinated educational effort to preserve and increase the national health. Each of the Associations represented here is giving its specialized contribution to the underlying purpose of them all: "Full Health for all Men and Women in Industry."

National Conference of Governmental Industrial Hygienists

Sunday, April 7

NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS: One-day Seminar: Three concurrent sessions—all day—on informal discussion of problems for:

(a) Medical Officers.
(b) Nursing Consultants.
(c) Engineers and Chemists..

Monday, April 8

COOPERATIVE Plan for the Development of Small Plant Health and Industrial Hygiene Program in New York City—LEONARD GREENBURG, M.D., Executive Director, Division Industrial Hygiene; E. L. STEBBINS, M.D., Health Commissioner, New York City; FRANK CALDERON, M.D., Deputy Health Commissioner, New York City.

Discussion — VICTOR HEISER, M.D., Medical Consultant, N.A.M.

"Administrative Aspects of Mass Radiography"—PAUL BREHM, M.D., Director, Industrial Hygiene Unit, Wisconsin.

Discussion—L. M. PETRIE, M.D., Director, Division of Industrial Hygiene Service, Georgia.

"Expansion of Industrial Hygiene Programs in Official Agencies"—J. G. TOWNSEND, M.D., Chief, Division Industrial Hygiene, U.S.P.H.S.

Discussion — MR. KENNETH MORSE, Acting Director, Division Industrial Hygiene, Illinois.

"Health Services for Official Agencies at the State Level"—LOUIS W. SPOLYAR, M.D., Director, Division Industrial Hygiene, Indiana.

"Decentralization of Official Industrial Hygiene Activities"—K. E. MARKUSON, M.D., Director, Division Industrial Hygiene, Michigan.

Discussion—R. R. CROSS, M.D., State Health Commissioner, Illinois.

"Coordination of Official Industrial Hygiene Program with Other Agencies"—L. M. FARNER, M.D., Chief, Industrial and Adult Hygiene Section, Washington.

Discussion—VOYTA WRABETZ, Chairman, Industrial Commission, Wisconsin.

Tuesday, April 9

ENTIRE morning devoted to reports of standing committees.

Committee on Development of Industrial Hygiene in Local Areas—K. E. MARKUSON, M.D., Chairman.

Committee on Industrial Hygiene Codes—MR. J. BUXELL, Chairman.

Committee to Study Industrial Hygiene Legislation—A. S. GRAY, M.D., Chairman.

Committee on Appraisal and Reporting of Industrial Hygiene Activities—MR. J. J. BLOOMFIELD, Chairman.

Committee on Industrial Ventilation—MR. W. N. WITHERIDGE, Chairman.

Committee on Professional Qualifications of Industrial Hygiene Personnel—MR. R. T. PAGE, Chairman.

Committee on Industrial Education —MR. H. G. DYKTOR, Chairman.

Committee to Study Methods for Securing Effective and Uniform Reporting of Occupational Diseases and Illnesses among Workers—J. M. MCDONALD, M.D., Chairman.

Committee on Standard Methods—F. M. GOLDMAN, M.D., Chairman.

Committee on Threshold Limits—W. G. FREDRICK, M.D., Chairman.

American Association of Industrial Physicians and Surgeons

Tuesday, April 9

AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, Clinical Program, Surgical Amphitheatre, Cook County Hospital, 9:00 A.M. to 12 Noon:

"Blood Bank Organization"—H. L. WALLIN, M.D., and FREDERICK STEIGMANN, M.D.

Purpose of the blood bank: To make available an adequate supply of blood and plasma for use in the hospital. II. Sources of blood: (a) volunteer donors, (b) professional donors, (c) friends and relatives of patients, (d) therapeutic phlebotomy, (e) placental blood, (f) call list of donors. III. Record of donors: (a) history of diseases, (b) serology, (c) donor signs agreement. IV. Collection of blood: (a) open method. (b) closed or vacuum method. V. Preservation of blood: (a) sodium citrate, (b) dextrose and sodium citrate, (c) temperature 2°-6° C, (d) length of storage, 10 days. VI. Preparation of plasma: (a) pooling, (b) drying, (c) freezing (d) liquid. VII. Typing serum: (a) A and B serum, (b) Rh serum. VIII. Techniques: (a) typing, (b) Cross-matching, (c) Rh testing. IX. Equipment: (a) refrigerator, (b) centrifuge, (c) incubator, (d) laboratory equipment—glassware, (e) cleansing of equipment. X. Personnel: (a) competent technician, (b) competent laboratory helper, (c) continuous service. XI. Records: (a) all orders written, (b) transfusions requested, (c) transfusions numbered, (d) labeling, (e) report of results, (f) reactions: 1. pyrogenic; 2. allergic; 3. cardiac; 4. incompatability.

"Suture Material: Early Ambulation: Postoperative Treatment: Thyrothricin"—D. D. KOZOLL, M.D.

"Abdominal Visceral Injuries"—R. W. MCNEALY, M.D.

The management of abdominal visceral injuries demands a familiarity with practically every technical procedure used in abdominal surgery. One should never venture an exploration of these patients without anticipating the many problems which may have to be met. The patients should be supported by infusions and transfusions during the operation, and no patient should be brought to surgery until shock and hemorrhage have been given adequate consideration. The inventory of the surgical set-up, including the actual laparotomy set and accessories, should not be left to those of lesser experience but should be carefully gone over by the operating surgeon himself. It is all too easy to upset the entire operating room force by the unwitting omission of needed equipment by those who have had little experience in this type of emergency surgery. Standardization of technic and the development of a system of exploration and management will greatly improve the results in the handling of abdominal visceral injuries. In few other fields of surgery is there required a greater degree of skill and ingenuity. Experience and good judgment must be handmaids of the operator who assumes the burden of this type of surgery.

"Burns"—SUMNER KOCH, M.D., and HARVEY ALLEN, M.D.

The early initial care of the severely burned patient demands the recognition of shock or the realization of impending shock where there has been extensive skin involvement. The shock must be treated by adequate replacement with plasma and whole blood to maintain blood volume. This must be sufficient to prevent anoxia and to insure satisfactory output. The local care of the burn is that of aseptic treatment of the wounded area with large pressure dressings and splintage. After the initial burn shock has subsided the patient's general condition must be maintained by proper diet and frequent whole blood transfusions to obtain nutritional balance, as this will guarantee healing. The later local care should be directed to hasten the separation of the whole thickness skin loss and early preparation of this area for skin grafting. The objective is to have the wound covered with a skin graft within three to four weeks following the burn.

"Fractures"—JAMES J. CALLAHAN, M.D.

"Varicose Veins and Varicose Ulcers: Thrombophlebitis: Femoral Vein Ligation"—ARKELL VAUGHAN, M.D.

Thrombophlebitis is a venous thrombosis occurring in the thigh or leg veins associated with an inflammatory reaction

which firmly attaches the thrombus to the intima of the vessel. *Phlebothrombosis*, or bland thrombus, is a venous thrombosis occurring chiefly in the venous plexuses of the calf of the leg and occasionally in the foot, and is not associated with an inflammatory reaction. The thrombus, therefore, is not firmly adherent to the intima of the vessel and fatal or non-fatal pulmonary emboli may arise from this source. The signs and symptoms of thrombophlebitis are: (1) Chills and high fever if the condition is septic. (2) Dull aching pains at the onset which is aggravated by motion and tenderness in the groin. The pain, however, may become quite severe. A great deal of pain is probably due to vasospasm. (3) Edema, cyanosis and warmth of the entire extremity. This may be due to perivascular lymphatic involvement, but more frequently it is due to increased capillary pressure, lack of arteriolar pulsations due to vasospasm and increased capillary permeability due to relative anoxia. The signs and symptoms of phlebothrombosis of the lower extremity are many times clinically quite benign and occasionally not noted until pulmonary infarction occurs. The following are helpful diagnostic aids: (1) The dorsi-flexion sign, which causes pain in the calf of the leg upon forced dorsi flexion of the foot. This is the most important clinical sign. (2) Persistently elevated pulse rate without apparent cause after the 4th or 5th postoperative day with a slight rise in temperature. (3) Increased sedimentation rate. (4) Fullness, tension, and tenderness of the calf muscles. The treatment of thrombophlebitis includes prophylactic and active treatment. Active treatment: (1) Injection of the lumbar sympathetic trunk of the extremity with 1% novocaine in the region of the 1st, 2nd, 3rd, and 4th lumbar sympathetic ganglia. (2) Dicumarol—after pro-thrombin time has been determined. The pro-thrombin time is taken each morning before the daily dose of Dicumarol is given. The pro-thrombin time is kept around 50 for about 10 days. (3) Penicillin, 25,000 units four times daily until temeprature is normal. (3) Application of Ace bandage from the toes to knees. (5) Elevation of leg. The treatment of phlebothrombosis is prophylactic and active. The active treatment includes: (1) Femoral vein ligation of the profunda and superficial femoral near the fossae ovalis combined with removal of the clot from the external iliac vein if a clot is present. (2) Dicumarol is used both before and after femoral vein ligation. The treatment of varicose veins includes (1) palliative treatment with Ace bandage, Unna's boot; or (2) injection of a sclerosing solution; or, (3) high saphenous vein ligation at the fossae ovalis with retrograde ligations both above and below the knee when indicated. The treatment of varicose ulcers is by (1) pressure bandages under an Unna's boot, elastic adhesive bandage, or Ace bandage; (2) high saphenous vein ligation with retrograde ligations both above and below the knee combined with an Unna's boot and pressure bandage; (3) injections of the feeding vein to the ulcer; (4) high vitamin A and C intake; (5) building up of the general physical condition of the patient, combined with supportive dressings to the leg.

"Head Injuries" — HAROLD VORIS, M.D.

AFTERNOON SESSION: At St. Luke's Hospital: Third Floor Staff Meeting Room, 1442 Indiana Avenue: Presiding—WILL F. LYON, M.D.

Clinical Pathological Conference—EDWIN F. HIRSCH, M.D., Director, Henry Baird Fanill Laboratories, St. Luke's Hospital, Associate Professor Pathology, University of Chicago.

"Traumatic Cases and Treatment of Burns"—WILL F. LYON, M.D., and BURTON C. KILBOURNE, M.D.

HARRY E. MOCK, SR., M.D., and Associates.

"Traumatic Arterio-Venous Aneurysm of Hand" and "Pathological Fracture of Decalcified Vertebrae"—JOHN LINDQUIST, M.D.

Inspection of New Rehabilitation and Occupational Therapy Department.

Hotel Sherman—Board of Directors' Meeting, AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS.

Wednesday, April 10

MORNING Session: Presiding—MELVIN N. NEWQUIST, M.D., President; LOYAL A. SHOUDY, M.D., President-Elect. Presidents' Reports—MELVIN N. NEWQUIST, M.D., and R. M. KEHOE, M.D. Committee Appointments.

JOINT SESSION — AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS and AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS. Presiding—LOYAL A. SHOUDY, M.D., and JAMES DUNNING, M.D., President, AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS.

"The Industrial Relations Value of a Medical Department"—CHRISTOPHER LEGGO, M.D., Medical Director, Clinton Engineer Works, Tennessee Eastman Corporation.

The examination, the treatment, or any type of consultation with an applicant or an employee in industry calls for medical and surgical skill on the part of the plant physician. This professional skill, however, is not in itself sufficient to meet the needs of the situation because there are always real or potential industrial relations problems present. This paper examines and evaluates these industrial relations problems.

"The Development of Improved Human Relationships in Industry"—The Caterpillar Program: MILTON H. KRONENBERG, M.D.

The purpose of this presentation is to show the operation of a comprehensive mental hygiene program applied to industry. It represents the combined thoughts and activities of two groups on industrial mental hygiene, namely, Cornell University Medical College and "Caterpillar" Medical. A method using psychiatric interviews, and paper and pencil procedures such as the Cornell Index and the Cornell Word Form was instituted at the Caterpillar Tractor Company to insure proper placement and maintain the mental health of employees. These tools are used as a means for better selection and placement of personnel and never intended to be used as a means for rejection or discrimination against any prospective employee. The program is designed for the following situations: (1) To assure better selection and placement of new employees a testing and interviewing technique was introduced. (2) An induction talk fortifying the individual against the stresses of industrial work was developed for new employees to assure good work adjustment. (3) Psychiatric interview was given soon after employment to discover each individual's personal assets and liabilities so as to prevent aggravation of existing disturbances and development of new ones. (4) A lecture series was used to train foremen in the recognition and management of minor emotional problems in persons under their supervision. (5) Routine personality evaluation by means of psychological tests was instituted to detect personality disturbances before they become pernicious. (6) Psychiatric counselling and brief therapy were made available to those with personality disturbances. (7) Psychological and psychiatric techniques for insuring the readjustment of the veteran to industrial situations were instituted. These procedures have been of value to employees by insuring their satisfaction and work adjustment and to management by maintaining efficiency. In short, the Caterpillar Program endeavors to avoid wastefulness of human resources in industry.

"The Dental Relations of an Industrial Health Program"—LYMAN D. HEACOCK, D.D.S., M.P.H., U.S.P.H.

"Tropical Diseases from an Industrial Viewpoint"—Z. T. BERCOVITZ, M.D., Medical Consultant, New York City.

AFTERNOON Session: Presiding—J. D. WILLEMS, M.D., President CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY; R. A. KEHOE, President, AMERICAN INDUSTRIAL HYGIENE ASSOCIATION.

"Industrial Dermatoses" — L. F. WEBER, M.D., Associate Professor of Dermatology, University of Illinois, College of Medicine, Chicago.

The mere naming of the various groups of industrial dermatoses shown in the indices of the literature on diseases of the skin would consume more time than I am allowed on the program. It would serve a useful purpose, however, if the amount and importance of industrial dermatoses in occupational medicine is impressed upon you. Since it is necessary to limit my discussion, I have selected "Contact Dermatitis of the Hands," a subject which can be illustrated with colored photographs of patients who have recently been under my care. I think the thing to be understood by those not practicing dermatology is, that there are many occupational cutaneous diseases besides industrial dermatitis.

"The Evaluation of the Vibration Syndrome in Industry"—EDWIN E. DART, M.D., Chrysler Corporation.

"Baso Vascular Spasm"—E. S. GURDYIAN, M.D., Detroit.

"Polyneuritic Syndrome in Occupational Diseases"—R. F. SIEVERS, M.D., National Institute of Health, Bethesda, Maryland.

Thursday, April 11

PRESENT Status of Aluminum in Silicosis"—(a) "Laboratory and Research"—DUDLEY IRWIN, M.D., Medical Director, Aluminum Corporation of America. (b) "Clinical Aspects"—J. W. HANNON, M.D., Washington, Pennsylvania.

"Industrial Chest Conditions Other than Silica"—L. E. HAMLIN, M.D., Medical Director, American Brake Shoe Co.

A review of various chest conditions which, particularly from an x-ray standpoint, are liable to be confused with silicosis, is presented. Clinical and x-ray findings are noted and salient features of each briefly discussed. The importance of accurate diagnosis is emphasized and special attention is given to more recent developments in such diseases as siderosis and significant findings which are important from the standpoint of health and litigation. Reference is made to sarcoidosis and pulmonary mycosis, and the status of these diseases as occupational hazards is evaluated. X-rays of a number of typical cases will be demonstrated.

"Employability of the Cardiac"—C. C. MAHER, M.D., Associate Professor of Medicine, Northwestern University.

"Present Status of Penicillin and

the Newer Anti-Biotics"—WALTER S. PRIEST, M.D.

Developments of the past year concerning new forms of penicillin and the indications for their use will be presented. The local use of tyrothricin in infected wounds and body cavities, and indolent ulcers has recently been revived because it is effective against some penicillin resistant organisms. While not at present generally available, streptomycin appears to be a valuable addition to the list of antibiotics and its clinical usefulness, so far as currently indicated, will be discussed.

AFTERNOON Session: "Ocular Effects of Radiant Energy"—CHARLES F. KUTSCHER, M.D., Pittsburgh, Pennsylvania.

For years, the presence of certain varieties of radiant energy in the plant environment was considered an unfortunate but necessary evil peculiar to certain industries. Recent developments employ not only these rays, but others still more hazardous, to good advantage. In such industries, many workmen with no evil intent, assign various ocular ailments to exposure to these dangerous "lights." It is the purpose of this paper to present factual information to the plant physician regarding the nature and generation of the various types of radiation. As these rays proceed from their source of origin, they come under the influence of many physical factors capable of altering their intensity. As these rays pass through the eye, the various parts act as selective absorbers. Only to those rays that are absorbed can any pathological change be attributed and then only if in sufficient amount. To each variety of radiation, the eye reacts in specific fashion. In conclusion, the various means for control, as well as the treatment after accidental exposure, will be discussed.

"Hand Surgery"—MICHAEL L. MASON, M.D., Associate Professor of Surgery, Northwestern University.

Certain principles are stressed in the management of hand injuries: Immediate first-aid protection with a large sterile dressing; prevention of secondary contamination, accurate diagnosis of extent of damage, and early (four to six hours) definitive surgery. The contaminated wound is converted into a clean surgical wound by careful soap and water cleansing and irrigation with saline solution under operating-room conditions. Repair of nerves and tendons is undertaken if the wound is not over four to six hours old, if there has been no primary virulent innoculation or serious secondary contamination, if covering tissues are adequate and if the experience of the surgeon and operating conditions warrant. Closure of the wound by suture or skin graft is followed by a large resilient pressure dressing and a splint. Chemotherapeutic agents should not be implanted in the wound since they disturb healing and are not beneficial. Parenteral penicillin is indicated when serious contamination has occurred. Secondary nerve and tendon repair may be undertaken within three to five weeks if healing has occurred by primary intention, if the wound is soft and the joints mobile, and if the covering tissues are satisfactory. Months of waiting, transference of flaps, mobilization of joints and extended physical therapy may be needed to prepare a hand for functional restoration if the above conditions do not obtain.

"Early Closure of Chronic Osteomyelitis with Split Thickness Skin Grafts"—MAJOR FRED C. REYNOLDS, M.C., and CAPT. STEBBINS, M.C., Gardiner General Army Hospital, Chicago.

BANQUET—Hotel Sherman: Presiding—MELVIN N. NEWQUIST, M.D., President.

Presentation of New Officers.
Presentation of Knudsen Award.
Presentation of Scientific Awards.

Speaker—MR. PAUL G. HOFFMAN, President, Studebaker Corporation, and Chairman, National Committee on Economic Development: "The Outlook for Freedom."

Premier showing of Motion Picture "The Doctor in Industry," by General Motors Corporation.

Friday, April 12

JOINT Session: AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, and AMERICAN ASSOCIATION OF INDUSTRIAL NURSES.

American Industrial Hygiene Association

April 8, 1946

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, Dinner Meeting, 6:00 P.M.: Round-table discussion on toxicology—methods of conducting research, application to industrial hygiene, and role of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION in setting up standards of environment control. (Admission restricted to persons experienced in toxicology.) D. D. IRISH, Chairman and Discussion Leader, Dow Chemical Company, Midland, Michigan.

April 9, 1946

REGISTRATION and Inspection of Exhibits.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Local Sections Council Luncheon, 12 Noon.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Section on Analytical Chemistry:

"Use of the Polargraph in the Industrial Hygiene Laboratory"—F. H. GOLDMAN, SR., Scientist, and IRVING MAY, Associate Chemist, U. S. Public Health Service, Bethesda, Maryland.

"Methods for the Determination of Free Silica"—T. M. DURKAN, Chemist, Saranac Laboratories, Saranac Lake, New York.

"Determining the Concentration of Mercury in the Air"—E. C. BARNES, Industrial Hygienist, Westinghouse Electric Corp., E. Pittsburgh.

"New Developments in Commercial Instruments for Air Analysis"— W. P. YANT, Director of Research and Development, Mine Safety Appliances Co., Pittsburgh.

"Urinary Fluorine Excretion and the Control of Exposures in Alkylation Plants using the Hydrogen Fluoride Process"—E. J. LARGENT, Research Associate, Kettering Laboratory, Cincinnati.

"The Determination of Antimony in Biological Material"—JACOB CHALEK and DONALD HUBBARD, Kettering Laboratory, Cincinnati.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Board of Directors Meeting.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Section on Industrial Environmental Control:

"Dust Control in Hematite Mines"—B. D. TEBBINS, Engineer, and I. R. TABERSHAW, formerly Director of Industrial Hygiene, Alabama Department of Public Health, Birmingham, Alabama.

"Industrial Hygiene in the Construction Industry"—FRANK N. CHIRICO, Chief Engineer, Occupational Health Section, Tennessee Valley Authority, Wilson Dam, Alabama.

"The Control of Mercury Vapor Hazards in Laboratories"—H. E. SEIFERT, Senior Sanitary Engineer, U. S. Public Health Service, Bethesda, Maryland.

"The Control of Lead Exposures in Storage Battery Manufacturing"—GRANT S. WINN, Industrial Hygienist, Delco Remy Division, General Motors Corporation, Muncie, Indiana.

"Ventilation of Coaters Enamelling Metal Sheets"—E. D. SALLEE, Chemist, and R. B. CARTER, Engineer, American Can Co., Chicago.

"The Inter-Relationships Between Man, His Environment and Tasks"—WILLARD MACHLE, New York.

April 10, 1946

JOINT Session of AMERICAN INDUSTRIAL HYGIENE ASSOCIATION and AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS. Welcoming addresses and responses.

"Precautionary Labelling of Chemicals"—DON D. IRISH, Director, Biochemical Research Laboratories, Dow Chemical Co., Midland, Michigan.

DONALD E. CUMMINGS Memorial Lecture—W. P. YANT, Director of Research and Development, Mine Safety Appliances Co., Pittsburgh.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Business Meeting.

JOINT Session AMERICAN INDUSTRIAL HYGIENE ASSOCIATION and AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS.

"Evaluating the Effects of Working with High-rate Vibration Tools"—EDWARD E. DART, M.D., Director of Industrial Hygiene, Medical Department, Chrysler Corporation, Detroit.

"Polyneuritic Syndrome in Occupational Diseases"—R. F. SEIVERS, P. A. Surgeon, National Institute of Health, Bethesda, and R. B. MALMO, Psychologist, Montreal, Quebec.

April 11, 1946

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Section on Physiology and Evaluation of the Environment:

"Respiratory Air Flow Characteristics and Their Relation to Certain Lung Conditions"—LESLIE SILVERMAN, Assistant Professor of Industrial Hygiene, Harvard School of Public Health, Boston.

"The Effects of Thiamine Restriction and Deficiency on Behavior in Normal Young Men"—JOSEF BROZEK, Assistant Professor, and ANCEL KEYS, Professor, Laboratory of Physiological Hygiene, University of Minnesota.

"Quinone Vapors and Their Harmful Effects":

"Corneal and Conjunctival Injury"—FRANK L. OGLESBY, Industrial Hygienist, Tennessee Eastman Corporation, Kingsport, Tennessee; BANKS ANDERSON, Professor of Ophthalmology, Duke University Medical School, Durham, North Carolina, and JAMES H. STERNER, M.D., Director, Laboratory of Industrial Medicine, Eastman Kodak Co., Rochester, New York.

"Plant Exposures Associated with Eye Injuries"—FRANK L. OGLESBY and JAMES H. STERNER, M.D.

"Appraising Exposures to Silica Dust and other Harmful Materials"—FRANK HOLDEN, Chief Industrial Hygienist, Industrial Hygiene Foundation, Pittsburgh.

"A Study of the Efficiency of Methods for Obtaining Vapor Samples in Air"—H. L. ANDREWS, Physicist, S. C. PETERSON, Junior Chemist, and WILLIAM D. WHITE, Associate Physicist, National Institute of Health, Bethesda.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION Section on Toxicology:

"Toxicity and Potential Dangers of Ethylene Dichloride"—LEON A. HEPPEL, Sr. Ass't. Surgeon, PAUL A. NEAL, Ass't Surgeon, and V. J. PORTERFIELD, Ass't. Chemist, National Institute of Health, Bethesda.

"Volatile Hydrides of Toxicological Importance"—STEWART H. WEBSTER, Biochemist, National Institute of Health, Bethesda.

"The Toxicity of Some Material used in the Manufacture of Cemented Tungsten Carbide Tools"—WILLIAM G. FREDRICK, Chief Chemist, Division Industrial Hygiene, Detroit Department of Health, and WILLIAM R. BRADLEY, Industrial Hygienist, American Cyanamid Co., New York.

"A Comparison of the Physiological Effects of Monomethylaniline and Xylidene"—JOSEPH F. TREON, HOWARD E. SIGMON, HOWARD WRIGHT, FRANCIS HEYROTH and KARL V. KITZMILLER, Kettering Laboratory, Cincinnati.

"The Acute and Chronic Toxicity of Methyl Chloride in Laboratory Animals"—W. W. SMITH, Physiologist, National Institute of Health, Bethesda.

"The Appraisal and Potential Dangers of Petroleum Solvents with Special Reference to Particle Size"—JOSEPH L. SVIRBELY, Pharmacologist, National Institute of Health.

AFTERNOON Session: "The Effect of Portland Cement Dust on Susceptibility to Lobar Pneumonia"—ANNA BAETJER, Johns Hopkins School of Hygiene and Public Health, Baltimore.

"Further Observations on the Ingestion of Lead by Normal Human Subjects"—R. A. KEHOE, M.D., Medical Director, Kettering Laboratory, Cincinnati.

"Dispersion and Control of Triethylene Glycol Vapors for Aerial Disinfection"—T. T. PUCK, University of Chicago, and A. L. CHANEY, M.D., Medical Director, Lockheed Aircraft Corp., Los Angeles.

"Pharmacology and Control of Toxicity of Organic Mercury Compounds"—BRADFORD N. CRAVER, M.D., Medical Director, Ciba Pharmaceutical Products, Summit, New Jersey.

"Current and Future Environmental Control Problems Attendant on the Use of Radioactive Energy"—L. F. CURTISS, Chief, Radioactivity Section, National Bureau of Standards.

American Association of Industrial Dentists

Wednesday, April 10

A SURVEY of Industrial Dentistry in the Commonwealth of Pennsylvania"—EDWARD R. ASTON, D.D.S.

The Dental Division of the Bureau of Industrial Hygiene, Pennsylvania Department of Health, desiring to know the part that dentistry is assuming in the industrial health program in the Commonwealth, has made a study in 318 plants that maintain a part or full time medical service, having an employee population of 557,872. A full explanation is presented of the method of approach used in contacting these industries with the idea of obtaining the fullest amount of information, descriptive set-up of the central and district offices throughout the Commonwealth, number of personnel and questionnaires used to obtain this information. The report of the tabulation is presented by districts, supplemented by tables arranged as to type and size of industry, male and female percentages, number of pre-employment and periodic examinations, individual or persons making these examinations, type of dental service provided, responsibility for payment and conclusions. The principal purpose of the paper is to prove to the dental profession the necessity on their part to assume the proper role in the industrial health program. This requires the services of a properly trained dental staff. At present these duties are being assumed by those in other professions.

"The Etiology of Dental Sequelae"—C. O. SAPPINGTON, M.D. DR. P.H.

For many years, it has been the custom of the medical and dental professions to assert and believe that dental sepsis is one of the most fruitful sources of many subacute and chronic systemic diseases. More recently this opinion has been questioned, and what might be called a healthy skepticism has arisen as to the validity of this dictum. In examining the evidence for and against this principle, it is first necessary to point out that although dental sepsis is a relatively common condition, all persons are not equally affected by it; second, that this does not, however, remove the possibility and probability even to a certainty in some instances, that oral sepsis does eventually lead to readily recognizable clinical entities characterized by subacute and chronic systemic disease; third, that the reason why dental infection may produce injurious systemic reactions in some individuals and not in others remains an unsolved problem. Moreover, as the fourth point, systemic lesions apparently not only occur when the dental focus is quiescent so far as can be ascertained, but such systemic reactions do occur subsequent to the trauma of dental removal. Furthermore, there is always the necessity of considering the relative virulence of the strain of bacteria involved, and the relative natural resistance and immunity of the individual with whom we are concerned. There is thus presented a problem in research, involving both animal experimentation and clinical correlation, concerning specific relationships between various kinds of bacteria, immunity and resistance of individuals involved, and the production of specific subacute and chronic systemic lesions. There have been from time to time excellent presentations in the literature, citing instances of the occurrence of systemic lesions that might result from dental sepsis, comparing these with controlled individuals in whom dental sepsis did not exist—however, it has seemed to the author that the conclusions were presumptive rather than definitely etiological. The author has proposed, because of the foregoing facts, the formation of a medico-dental research institute for the purpose of correlating and following through the part which dental sepsis plays in the production of subacute and chronic systemic diseases, with the study of auxiliary factors including other foci of infection (which must be ruled out if specificity is to be obtained concerning dental sepsis) and other subordinate factors which are important in this study. Nothing previously said should be taken as an argument against any and all efforts to clean up septic conditions in the mouths of all individuals who can be made available for this purpose. All the combined preventive efforts of the medical and dental professions will not result, in this generation at least, in the lack of clinical material for the adequate scientific study of the etiological relationships proposed above.

"Dental Program at the Philadelphia Company"—CHARLES R. FRICKE, D.D.S. (Discussion—ERNEST GOLDHORN D.D.S.)

Salient Features: (1) The importance of pre-placement examinations, including x-ray pictures. (2) The attitude of pre-placement employees toward dental health. (3) Some revealing facts and figures pertaining to industrial dentistry and local dentists.

"A Functioning Dental Service at The Wilson Dam Health and Safety Department, T.V.A." — VARON B. SMITH, D.D.S. (Discussion—VERNON J. FORNEY, D.D.S.)

Thursday, April 11

BUSINESS Meeting.

Round Table Discussion—"The Responsibility of The Operating Dentist in Industrial Cases"—Leader: EARLE H. THOMAS, M.D., D.D.S.

"The Dental Unit of the Industrial Hygiene Division, U.S.P.H.S."—LYMAN D. HEACOCK, D.D.S., M.P.H.

The American Association of Industrial Nurses

Wednesday, April 10

MEETING of the Executive Board of the AMERICAN ASSOCIATION OF INDUSTRIAL NURSES.

Thursday, April 11

JOINT Session of the Executive Board of AMERICAN ASSOCIATION OF INDUSTRIAL NURSES and officers or Representatives of Local Groups.

Meeting Concurrently:

Presidents or Chairmen of Local Groups—Chairman, MARY DELEHANTY, R.N., Equitable Life Assurance Society, New York.

Treasurers of Local Groups—Chair-

man, ELLA MAC DONALD, R.N., William Skinner & Sons, Holyoke, Massachusetts.

Committees on Education of Local Groups—Chairman, RUTH EISERMANN, R.N., Chairman, Education Committee of A.A.I.N., Geenral Motors, Diesel Engine Division, Cleveland, Ohio.

Men's Section of A.A.I.N.—Chairman, CHARLES SCHNEIDER, R.N., Chairman, Men's Section of A.A.I.N., Kaiser Shipyards, San Francisco, California.

JOINT Session of State and Insurance Company Industrial Nursing Consultants with A.A.I.N. Executive Board.

AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS Banquet: "The Outlook for Freedom" —PAUL HOFFMAN, President, Studebaker Corporation, Chairman, National Committee on Economic Developments.

Friday, April 12

JOINT Session of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS and the AMERICAN ASSOCIATION OF INDUSTRIAL NURSES.

"Team Work in an Industrial Health Program"—WILLIAM A. SAWYER, M.D., Medical Director, Eastman Kodak Company, Rochester, New York; A. C. HEWITT, Production Manager, Visking Casing Corporation, Chicago; MRS. HAZEL LEEDKE, R.N., Medical Department, Thilmany Paper & Pulp Company, Kaukauna, Wisconsin; H. GLENN GARDINER, M.D., Chairman of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS Committee on Medical Motion Pictures, Scientific Exhibits and Awards, Hammond, Indiana.

AFTERNOON Session: Visit to Abbott Laboratories—North Chicago.

"Cancer Education in Industry"—MARIAN SMITH, R.N., Queens County Cancer Committee, Jamaica, New York.

Dinner as guests of Abbott Laboratories—North Chicago.

Radio Broadcast: "The Country Sheriff"—W.G.N. Studio, 435 North Michigan Avenue, Chicago.

Saturday, April 13

AMERICAN ASSOCIATION OF INDUSTRIAL NURSES Business meeting.

Luncheon meeting: Hotel Sherman.

Invocation—REVEREND ARTHUR M. BOWMAN, Pastor, North Park Covenant Church, Chicago.

Addresses of Welcome—ELVA S. DENNING, R.N., Chairman, First District Industrial Nurse Section, Illinois State Nurses Association; MARY I. BOGARDUS, R.N., President, Illinois State Nurses Association; Industrialist; JOHN W. PARKS, Production Manager, *Chicago Tribune*.

AFTERNOON Session: Round Table Discussion:

"Preventive Tuberculosis Program in Industry"—JULIE MIALE, National Tuberculosis Association.

"The Industrial Nurse and Personnel Relations"—LOUELLA THOMPSON, General Mills Corporation, Minneapolis, Minnesota.

"What Can the Local Group do to Stimulate the Interest of the Industrial Nurse to Further Her Education"—Representatives from Houston, Texas Industrial Nurse's Club.

A.A.I.&. Banquet: Congress Hotel.

Invocation—REVEREND FATHER, ROBERT J. WILLMES, S.J., Regent of Loyola University Dental School, Chicago.

Toastmaster—FREDERICK W. SLOBE, M.D., Secretary, AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, Chairman, Committee on Industrial Health, Chicago Medical Society.

"How to Promote Expansion of Health Services in Industry"—JOHN F. P. FARRAR, President of the Chicago Metal Hose Corporation, Maywood, Illinois.

Sunday, April 14

MORNING Session Only: Chairman: MILDRED MOORE, R.N.

"Problems of the Industrial Nurse" —Panel Discussion (Questions from the floor).

Panel Participants:

1. C. M. PETERSON, M.D., Secretary, Council on Industrial Health, American Medical Association, Chicago.

2. JOHN ROCHE, Director, Industrial Hygiene Division, National Safety Council, Chicago.

3. FRANK PEREGRINE, Attorney, Industrial Commission of Illinois, Chicago.

4. ALEXANDER ROPEHAN, Executive Secretary, Health Division, Council of Social Agencies, Chicago.

5. J. C. STAEHLE, Director of Industrial Relations, Aldens Mail Order Company, Chicago.

6. MRS. BETHEL MCGRATH, R.N., Chief Industrial Nursing Consultant, AMERICAN ASSOCIATION OF INDUSTRIAL NURSES, Minneapolis.

7. CATHERINE CHAMBERS, R.N., Industrial Nursing Consultant, Division of Industrial Hygiene, Wisconsin Board of Health, Madison, Wisconsin.

8. RUTH KAHL, R.N., Industrial Nursing Consultant, Division of Industrial Hygiene, United States Public Health Service, Bethesda.

9. C. O. SAPPINGTON, M.D., DR. P.H., Industrial Hygiene Consultant, Chicago.

10. A. D. BAILEY, Vice-President in charge of Operations and Engineering, Commonwealth Edison Company, Chicago.

General Chairman — Conference Program, ETHEL C. BURGEON, R.N., Sears Roebuck & Company, Chicago.

Co-chairman—Conference Program, DAGNEY RYAN, R.N., National Tea Company, Chicago.

Scientific Exhibits

BOOTH 1—"Navy Health Hygiene and Safety"—Bureau Medicine & Surgery, Navy Department, Washington, D. C.

BOOTH 2—"City Planning and Housing as it Affects the Health and Welfare of Industrial Employees"—Citizens' Housing and Planning Council of Detroit, A. H. WHITTAKER, M.D., and EDWARD D. CONNOR, Executive Director.

BOOTH 3—"Airborne Particles in the Respiratory Tract"—Toxicity Laboratory, University of Chicago, Division of the Biological Sciences, W. L. DOYLE.

BOOTH 4—"History of Industrial Nursing in the U. S. A."—Industrial Nursing Section, First District Illinois State Nurses Association.

BOOTH 5—"Small Plants Health Service" — Industrial Hygiene Division, U. S. Public Health Service, Bethesda, Maryland.

BOOTH 6—"Rehabilitation of the Blind" — EDWARD M. FEIMAN, M.D., Surgeon-in-Charge, Timken Roller Bearing Company, Canton, Ohio.

BOOTH 7—"Records Conference Exhibit" — American Association of Industrial Nurses, Inc., 299 Madison Avenue, New York — MILDRED B. BROOKS, R.N., Chairman Records Committee.

BOOTH 8—"Dermatophytosis in Industry" — LOUIS SCHWARTZ, M.D., Medical Director, SAMUEL M. PECK, Sr. Surgeon (R), ISADOR BOTVINICK, M.D., P.A. Surgeon (R), Dermatosis Section, Industrial Hygiene Division, Bureau of State Services, U. S. Public Health Service.

BOOTH 9—"Blue Cross Plan for Hospital Care"—Blue Cross Plan for Hospital Care, RUTH BRANNON, Public Relations Director, 11 South LaSalle Street, Chicago.

BOOTH 10—"Testing Brain Injuries" — WARD C. HALSTEAD, M.D., Department of Medicine, The Division of Biological Sciences, The University of Chicago.

BOOTH 11—"The Mouth and Its Message"—American Dental Association, 222 East Superior Street, Chicago; Chicago Dental Society, 30 North Michigan Avenue, Chicago.

BOOTH 12—"Some New Tools for Dust Determinations and Investigations"—R. R. SAYERS, Director, Bureau of Mines, U. S. Department of the Interior, Washington, D. C.

BOOTH 13 — "Cancer of the Mouth"—American Dental Association, 222 East Superior Street, Chicago; Chicago Dental Society, 30 North Michigan Avenue, Chicago.

BOOTH 14—"Safeguarding and Utilizing Eyesight in Industry"—National Society for the Prevention of Blindness, 1790 Broadway, New York, ISOBEL JANOWHICH, Director Films and Exhibits; CHARLES P. TOLMAN, Consulting Engineer.

BOOTH 15—"The Blind in Industry"—HAZEL HURST Foundation for the Blind, Inc., 3306 Barhite, Pasadena, California—GEORGE COLOURIS, Vice-President.

BOOTH 16—"Prevention of Dermatitis in Lithography"—LEON GOLDMAN, M.D., Kettering Laboratory of Applied Physiology, College of Medicine, Cincinnati; LOUIS SCHWARTZ, M.D., Chief Bureau of Dermatoses Investigations, U. S. Public Health Service, Bethesda, Maryland; Lithographic Technical Foundation, Inc., Chicago.

BOOTH 17—"Traumatic Intracranial Hemorrhage"—E. S. GURDJIAN, M.D., Wayne University College of Medicine, Detroit; JOHN E. WEBSTER, Major, A.U.S.

BOOTH 18—"Industrial Nursing" A. E. KELTIE, R.N., Exhibit Chairman, American Association of Industrial Nurses, 299 Madison Avenue, New York; American Mutual Liability Insurance Company, 142 Berkeley Street, Boston.

BOOTH 19—"Records Conference Exhibit"—MILDRED B. BROOKS, R.N., Chairman Records Committee, American Association of Industrial Nurses, 299 Madison Avenue, New York.

BOOTH 20 — "Interinnomino-Abdominal Amputation" — A. H. WHITTAKER, M.D., 1427 East Jefferson Avenue, Detroit.

BOOTH 21—"Army Industrial Medical Program"—Training Division, Army Service Forces, Office of the Surgeon General, Washington, D. C.

BOOTH 22—"Cancer Detection in General Practice"—GEORGE B. LARSON, Midwest Field Army Di-

rector, American Cancer Society, Inc., 25 East Washington Street, Chicago.

BOOTH 23—"Physical Impairment and Job Performance"—VERNE H. HARVEY, M.D., Medical Director and E. PARKER LUONGO, M.D., Assistant Medical Director, U. S. Civil Service Commission, Washington, D. C.

BOOTH 24 — "Hyperparathyroid Disease: A 10-Year Followup"—EDWARD P. HELLER, M.D., Kansas City Industries, 1010 Professional Building, Kansas City, Missouri.

BOOTH 25 — "Restoration of Function in Deformities, Evaluation"—WILLIAM F. LAUTEN, M.D., 55 East Washington Street, Chicago.

BOOTH 26—"Utah State Department of Health."

BOOTH 27—"Illinois State Department of Public Health."

Technical Exhibits

Abbott Laboratories 74
A number of scientific advances, especially the sulfa-drug and penicillin products.

A. S. Aloe Company....29, 30, 31
The Aloe All-Purpose Industrial Chair; actual working expositions of new laboratory procedure.

American Bandage Corporation 85
Standard a.b.c. Gauzband, a self-adhering gauze for bandaging of cuts, burns and bruises; Oil Resistant Gauzband; Liquid Protectone; Americaine Ointments.

American Optical Company.56, 57
Program for Industrial Safety and Visual Efficiency and the AO Sight Screener; Dark Field Microscopes; Stereoscopic Microscopes; Blood Counting Apparatus; Projection Equipment; Ophthalmoscopes and Otoscopes; Diagnostic Instruments for Eye, Ear, Nose and Throat Specialists; Refracting Equipment for Ophthalmologists.

American Sterilizer Company..69
Hygeaire Germicidal; New Cabinet Model Office Sterilizers; Doctor's Office Lights.

Ames Company, Inc......23, 24
Clinitest tablet method for detection of urine-sugar; Ames Albumintest tablet for urine-albumin.

Bard-Parker Company, Inc.....42A
Rib-back surgical blades; surgical knife handles; long knife handles for deep surgery; Bard-Parker Germicide and instrument containers; transfer forceps: Hematological Case for obtaining bedside blood samples; renewable-edged scissors; Ortholators.

Bausch & Lomb Optical Company 3, 4
Third edition of "The Human Eye in Anatomical Transparencies"; microscopes; diagnostic instruments; Ortho-Lite operating lamp.

Becton, Dickinson & Co......10
Ace Bandages of three types: Ace No. 1 all-cotton elastic bandage for supportive bandaging; Ace No. 8 with lastex for use where extra support and pressure are required; and Ace No. 10, an elastic adhesive bandage. Vacutainer equipment; hypodermic syringes and needles.

Bilhuber-Knoll Corporation ...60
Metrazol; Dilaudid; and other useful prescription chemicals such as Bromural, Theocalcin, Phyllicin, Phenobarb. Theocalsin and Pot. Iod. Theocalcin.

John H. Breck, Inc......79
Breck pH7 Protective Cream; Breck Water Resistant Cream; Breck Work Cream; Breck Hand Cleaner.

Bristol Laboratories 82, 83
Penicillin.

Bristol-Myers Company 28
Ipana Tooth Paste and other products.

The Burdick Corporation.....96
Ultra-violet and Infra-Red Lamps; Short Wave Diathermy and the Rhythmic Constrictor; Solarium Shower.

Camel Cigarettes 13, 14
Medical Relations Division—Photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. International news with "Flash Bulletins."

Detroit First Aid Company....91
Mollo-Pedic Shoes to protect the inflamed, cast-bound or mending foot; Sta Fast Cohesive, a protective covering applied over ordinary bandage.

Dome Chemicals, Inc......53
Domeboro Tabs; Daxalan Ointment; Omnia Creme; Domeboro Ointment.

The Drug Products Co., Inc.....12
Myopone, a new approach in the treatment of myopathies; also other therapeutic agents (Hyposols, Pulvoids, etc.).

Durex Products, Inc......86
Lactikol Jelly and Lactikol Creme for child spacing; diaphragms of the Coil and Mensinga type as well as the Bow-Bend and the Duraflex (Matrisalus type).

Eaton Laboratories, Inc.....39, 40
Furacin Soluble Dressing, a new anti-bacterial agent.

Industrial Medicine on the Air . . .

UNIVERSITY of Chicago Round Table Broadcast over NBC's Coast-to-Coast Network.

12:30-1:00 P.M.—Central Standard Time, Sunday, April 14, 1946.

TOPIC: "MANAGEMENT'S RESPONSIBILITY IN THE MEDICAL CARE OF ITS EMPLOYEES."

Participants:

JOSEPH C. CHIVERS, M.D., Medical Director, Crane Co., Chicago.

FRANKLIN C. MCLEON, M.D., Professor of Pathological Physiology, The University of Chicago Medical School, Chicago.

LEO PRICE, M.D., Medical Director, Union Health Center, New York City.

EDWARD C. HOLMBLAD, M.D., Railway Express Agency, Chicago.

JOHN J. WITTMER, M.D., Vice-President and Director of Personnel, The Consolidated Edison Company of New York, Inc., New York City.

Cameron Heartometer Co......58
The improved Heartometer, a scientific precision instrument for accurately recording systolic and diastolic blood pressures.

Cereal Institute, Inc......68
Education materials on breakfast and cereals.

Ciba Pharmaceutical Products, Inc. 38
Privine, nasal vasoconstrictor; Nupercainal, a bland ointment of Nupercaine base; Trasentine, anti-spasmodic; Trasentine-Phenobarbital.

Otis Clapp and Son, Inc......88
Samples and information on pharmaceuticals; Obtundia, the modern antiseptic.

The Coca-Cola Company....16, 17
Coca-Cola will be served.

The Denver Chemical Mfg. Co. 8
Antiphlogistine; Galatest, dry reagent for instantaneous detection of urine sugar; Acetone Test (Denco), dry reagent for rapid detection of acetone in urine.

E & J Manufacturing Co......33
Newest developments in mechanical artificial respiration will be demonstrated.

J. H. Emerson Company.....20
Resuscitation equipment: Hot Pack Apparatus which prepares packs for any purpose in two to three minutes.

C. B. Fleet Co., Inc......35
Phospho-Soda, a highly concentrated and purified aqueous solution of sodium phosphates.

Foille Incorporated 11
Foille for treatment of any surface injury or disorder, non-systemic, for which local therapy is indicated.

The Gebauer Chemical Co......36
Ethyl Chloride U.S.P. Tannic Spray, in dispenseal bottles.

General Electric X-Ray Corporation 32
"Rocke" Hydrotherapy Arm and Leg Bath; Stader Splints for the reduction and fixation of fractures.

Hillman Pharmaceutical Company 54
Hillman's D Compound for effective relief from dysmenorrhea.

The Hospital Specialty Company 78
Auto-Matron Sanitary Dispenser and Gards Sanitary Napkins. Gards Sanitary Napkins.

Ille Electric Corporation.....46
Hydromassage Subaqua Therapy Tank (Improved Whirlpool Bath).

Industrial Medicine Publishing Company 87
Industrial Medicine, monthly; Industrial Nursing, monthly; Occupational Hygiene, quarterly; "A Blind Hog's Acorns," by CAREY P. MCCORD, M.D.; "Nursing in Commerce and Industry," by BETHEL J. MCGRATH, R.N.; "Toxicology," by WM. D. MCNALLY, M.D.; "The Mind of the Injured Man," by JOSEPH L. FETTERMAN, M.D.; "Essentials of Industrial Health," by C. O. SAPPINGTON, M.D., DR. P.H.

Johnson & Johnson.....63, 64
Display of products of special interest to the industrial physician and surgeon.

Karel First Aid Supply Co..26, 27
A model first aid room utilizing the latest in modern, efficient, industrial first aid equipment.

The Kelley-Koett Manufacturing Co. 49
K-30 DeLuxe Vertical Fluoroscope Combination Unit; Keleket Fluorescent Iluminator; Keleket Cassettes and other x-ray accessory items.

Keystone View Co. 41
Keystone Industrial Vision Service—a rapid accurate, reliable test of employees' working efficiency.

Lederle Laboratories, Inc......43
Flobulin modified Antitoxins such as Tetanus, Tetanus Gas Gangrene, Gas Gangrene, etc.; Lentab tablets, providing medication such as vitamins, hormones, etc., in a pleasant, tasteless form.

Eli Lilly and Company.....98
Iletin Preparations; 'Merthiolate' Preparations; Barbiturate Specialties; Liver Products; Penicillin.

Lily-Tulip Cup Corp......15
A full line of paper cups for industrial feeding and for the protection of workers against mouth-to-mouth spread of infection.

Medco Products Co. 37
Litmasin pH indicators; Teca Hydrogalvanic equipment.

The Wm. S. Merrell Company..34
Oravax, oral vaccine for prophylaxis of respiratory infections; Vonedrine, nasal vasoconstrictor in Solution and Inhaler forms; Cepalco, alkaline germicidal solution for treating the inflamed throat; Pan-Concemin, daily vitamin ration in one small tablet.

Medical Fabrics, Inc......89
Individually wrapped dressings.

Medical Film Guild 72, 75
Films reviewing such subjects as Parkinson's Disease, the major neuralgias, cervicitis, otolaryngological diseases, contagious diseases, arterial blood pressure, hypothyroidism, and industrial medicine.

Milburn Company 73
Developments in skin disease protection both in creams and lotion barriers; complete line of plastic coated custom designed clothing; new development in athlete's foot treatment.

Mine Safety Appliances Company 61, 62
Instruments for the detection of toxic and combustible gases such as the Carbon Monoxide Detector, Indicator and Alarm, Explosimeter, Benzol Indicator, Combustible Gas Alarm, Hydrogen Sulphide Detector and Hydrocyanic Acid Gas Detector; dust sampling and counting equipment; personal respiratory protective equipment; the H-H Inhalator; Foille; Fend Creams and Lotions; first aid materials; Ear Defenders; goggles; protective hats and caps; salt tablet dispensers.

National Dairy Council.....94
Health educational leaflets, booklets and posters.

National Live Stock and Meat Board 7
Nutrition literature including large wall charts.

Nutrition Research Laboratories 19
New exhibit of Kodachrome transparencies; Ertron in both oral and parenteral forms; Infron Pediatric.

G. H. Packwood Manufacturing Co. 52
Paxlanosav Heavy Duty Granulated Skin Cleanser; Pax Sulphonated Oil Skin Cleanser.

Parke, Davis & Company.....48
Theelin, Mapharsen and Adrenalin Preparations; Despeciated Antitoxins; Penicillin and other therapeutic agents of antibiotic, biological and chemotherapeutic interest.

Philip Morris & Company Ltd., Inc. 22
Demonstration of the method by which it was found that Philip Morris cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes.

Picker X-Ray Corporation..92, 95
Mino-graph Units for mass x-ray surveys and for radiographic screening of large or small groups; a selection of Picker accessories for radiography, fluoroscopy and therapy.

Poloris Company, Inc......25
Poloris Dental Poultice.

Powers X-Ray Products, Inc...90
Complete chest x-ray service.

Q-V Corporation 50
Iodized Donol ointment.

Rees-Davis Drugs, Inc......47
Hydrosulphosol, a fundamental approach to sulfur metabolism.

W. B. Saunders Company.....81
Medical and nursing books: Johnstone's "Occupational Diseases"; the U.S.P.H.S. Official Manual of Industrial Hygiene; MacDonald's "Industrial Nursing"; and several new publications.

Schenley Laboratories, Inc.....66
Penicillin and penicillin products.

Sharp & Dohme 1, 2
Tyrothricin Concentrate; 'Lyovac' Normal Human Plasma; 'Sulfasuxidine'; Sulfathalidine'; 'Caligesic' Ointment.

Sherman Laboratories 55
Biological products for use in prophylaxis and treatment of infectious diseases.

E. R. Squibb & Sons 59
Penicillin.

Frederick Stearns & Company Division 93
Neo-Synephrine Hydrochloride; Parenamine; Adnephrin; Fergon; Fairchild enzyme products, Pepsencia, Gastron and Holadin.

The Stepan Chemical Company 5, 6
Demonstration of pH6 sulfated oil skin cleanser; Non-Abrasive Scrubber (pure, fine ground cornmeal).

Tampax Incorporated 65
Tampax, internal sanitary protection.

Teca Corporation 42
Two Circuit Hydrogalvanic units for office and institutional work; Teca Bi-Trodes for testing and localized treatment; Teca low volt generator SP3.

United States Safety Service Company 67
"Pep-Up" Salt Tablets.

The Warren-Teed Products Co..80
Chlor-U-Cain, an ointment which shortens the healing time of burns and wounds by as much as 50% will be featured.

Watson-Sharp and Company...97
Roger Anderson Orthopedic Table; Vitallium appliances; products manufactured by the American Sterilizer Company.

West Disinfecting Company....51
Lan-O-Kleen; Sulpho Hand Cleaner; West Durma-Gards.

Westinghouse Electric Corporation 44, 45
Electrical and X-Ray apparatus.

White Laboratories, Inc......60A
White's Cod Liver Oil Concentrate Products and other Council-Accepted vitamin products.

Whitehall Pharmacal Company.21
Anacin Tablets; BiSoDoL.

Willson Products, Inc...... 9
Apparatus for Air Analysis, including Impingers, Dust Sampling Apparatus, Chlorinated Hydrocarbon Sampling Apparatus, Thermo-Anemometers, together with special styles of goggles for industrial hygiene and chemical work.

Zurich Insurance Companies...77
Three-dimension exhibit of the Safety Zone Program of Health and Safety Education; Job Placement of the Physically Handicapped.

The Passing of the Pioneers

—They Will Be Missed—

THE last 12 months have seen the passing of two more of those industrial medical men who were identified with the formative and struggling period of industrial medicine — two more of the real pioneers who early elected to give their professional talents to its practice, and their wisdom and foresight to the development of the extent and quality of the services for which it was responsible. Both lived to witness its full recognition. Neither, however, was known to have expressed at any time a personal consciousness of his own part in building toward the day when professional and public acceptance could no longer be withheld. It is left for biography to point out that each, in the period of his work and the integrity of the way it was done was an important member of the goodly company of the pioneers.

DR. CLARE FREDERICK NESBITT SCHRAM, 61, medical director of the Tennessee Eastman Corporation and the Holston Ordnance Works, died at his home in Kingsport, Tennessee, May 22, 1945. DR. SCHRAM was born at Flint, Michigan, in April, 1884. He attended Flint High School, and Berea, Western Reserve and Oberlin Academies and Oberlin College. He graduated, M. D., at Columbia University College of Physicians and Surgeons in 1916 and interned at White Plains Hospital, White Plains, New York. In 1917 he was appointed chief surgeon for Fairbanks Morse & Company, Beloit, Wisconsin. This was a full-time position and he held it, with credit and distinction, until 1934 when he became medical director of the Tennessee Eastman Corporation at Kingsport. He was early identified with the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, serving as president, and as director for several terms. Among the comments at the time of his death are the following:

Beloit Daily News, May 22, 1945; "DR. SCHRAM came to Beloit from White Plains, New York, on June 4, 1917, to head the medical department at Fairbanks, Morse & Company. He was the first full-time plant physician employed by the company. He remained with the company until February 28, 1934. DR. SCHRAM was particularly interested in conservation of natural resources and the Izaak Walton League chapter in Beloit provided the medium through which he carried on this interest. He promoted better fishing and hunting for Rock County residents and he helped to promote the project to rid local waters of carp so game fish might have a better chance to thrive."

Kingsport, Tennessee press; "Colleagues of DR. C. F. N. SCHRAM, Tec-How medical director who died Tuesday, joined today to laud his achievements in the advancement of his profession and in the alleviation of human suffering. George W. Eutsler, director of Holston Valley Community Hospital, Tuesday night declared DR. SCHRAM has done much to improve and advance the medical profession. 'He was a man who felt a tremendous responsibility toward performing any task placed before him,' Eutsler said. The hospital director also recalled that efforts of DR. SCHRAM had gone a long way toward the establishment and development of the Journal Club, a thriving organization of young doctors and interns here before its activities were curtailed by the war. A colleague, Dr. W. A. Wiley, speaking of DR. SCHRAM Tuesday night, said that, as a member of the staff of the Holston Valley Community Hospital and of the Sullivan-Johnson County Medical Society, he had given his utmost for the cause of human suffering." "DR. SCHRAM had been active in community and national medical affairs, having served as president of the Sullivan-Washington County Medical Society. Prior to his presidency of the two-county group, he had been its secretary, and had a long record of committee service. His work in county health service was termed by his colleagues today as 'prodigious.' In addition to the county and national groups, he held memberships on the staff of the Holston Valley Community Hospital, and in the American Medical

Association. He had also served as treasurer of the Women's Field Army for Cancer Control. In Rock County, Wisconsin, he was instrumental in founding one of the first and most efficient plans for medical care to relieve patients, a plan which ran succesfully through the difficult depression years and served as a model for similar plans there."

And this from the Medical Department of Eastman Kodak Company: "As you know, we all regarded him very highly. He was a real pioneer. All of his medical life was devoted to this field. He leaves a big hole in our organization, and we shall miss him greatly."

The fact that DR. SCHRAM was "a real pioneer," advanced in thought and prophetically aware of the inevitable development of industrial medicine, is strikingly indicated in the time and the trend of his writings. As far back as 15 years ago, for example, there was his article on "The Scope of Industrial Medicine and Surgery; Why Should the Physician Go Out Into the Plant." And his next, which followed quickly, was on "The Relation of the Industrial Surgeon to Rehabilitation." And shortly thereafter, and anticipatory of the present "social" propaganda, he wrote forcefully on "Keep the Worker Well and the Practice of Medicine in the Hands of the Medical Profession." This was followed several years later by the first of what might be called the "public relations" expressions of industrial medicine, an article in the *Saturday Evening Post*, entitled "Unmined Gold," and setting forth very convincingly the employer's advantages as well as the employee's benefits of industrial medical services. All four of these subjects are in the forefront of interest today. Thus, in his convictions, as well as in his own applications of what he believed in, this man was ahead of his time. In his contacts and personal relations he was capable, kindly and considerate. For all he was, he will be missed—which is to say that he will be remembered.

Dr. C. F. N. Schram
1884-1945

THERE always comes to mind in connection with the passing of one of the real pioneers the words of the original Dr. Pilgrim: "After this it was noised abroad that Mr. Valiant-For-Truth was taken with a summons by the same post as the other and had this for a token that the summons was true, that his pitcher was broken at the fountain. When he understood it he called for his friends and told them of it. Then he said, 'I am going to my Father's, and though it is with difficulty that I have got hither, yet now I do not repent me of the trouble I have been at to arrive where I am. My sword I give to him that shall succeed me in my pilgrimage; my courage and skill to him that can get it. My marks and scars I carry with me to be a witness for me that I have fought His battles who now will be my rewarder.' "

Dr. Don B. Lowe
1883-1946

DR. DONALD BLAIR LOWE, 62, medical director of The B. F. Goodrich Company for 31 years and one of the best known and highly respected members of that organization, died March 2, 1946, following a brief illness. Born in Kingsville, Ohio, August 1, 1883, DR. LOWE was graduated from Adelbert College and the medical school of Western Reserve University, Cleveland, receiving his medical degree in 1912. After post-graduate work at Johns Hopkins, Baltimore, he served his internship at Lakeside, Fairview and Rainbow hospitals in Cleveland, and joined the U. S. Public Health Service in 1914 after a year as an instructor of medicine at Western Reserve. He was named medical director of B. F. Goodrich August 23, 1915. Extremely modest, DR. LOWE devoted his life to his company duties, his family and his profession in which he was held in highest esteem. He had been a member of the Summit County Medical Society since 1916 and was president in 1939. He was active in Red Cross and in the Traveller's Aid Society. He was a member of Delta Upsilon; the American Public Health Association; the American Medical Association; the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, serving as president in 1932 and 1933, and a fellow of American College of Physicians. He was also a member of the staff of Akron City Hospital. He devoted much time to assisting young medical men. His friends and company associates announced they would create a scholarship fund in his name to carry on the work he started in aiding young doctors."

The foregoing is from a release by DR. LOWE'S company. The statement that he was "extremely modest" is so true as to have caused a good many who wanted to get closer to him and know him better to have been hesitant on that account. The privileged few who were within the immediate range of his personality, however, found him a very careful student, extremely analytical, hesitant to express an opinion until it had been thoughtfully weighed, and yet possessed in a marked degree of those qualities which made him, as the company's release says, "one of the best known and highly respected members" of the organization. Characteristic of his modesty was his recent reply to a request that he indicate his approval of a biographical sketch for a compendium of biographical information: "I much prefer to have the whole thing omitted."

A student of industrial medical history, desiring to trace the origins of many of the ideas and practices in industrial medicine which are talked about as "the latest developments," would find that more than a few of them were in thriving application in DR. LOWE'S medical department many years ago. The details in respect of these things were not talked about by DR. LOWE, but the fact remains, to certify his place as one of the real pioneers of industrial medicine.

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1946 Conference on Industrial Health

THE Conference Program appears on pages 268-274. There are concurrent sessions on several days, notably on Tuesday, April 9, and Thursday, April 11, which are not specially identified here. These are arranged in proper parallel, and last-minute changes are included, in the program to be used at the Conference. Note "Industrial Medicine on the Air," Sunday, April 14 (see page 273).

Occupational Disease Catechism

THE current accent on "occupational" medicine suggests a possible revival of the easy habit of quick association, in both medical and lay minds, of the term "occupational" with the word "disease." The connection between disability and overalls however, although it seems so often self-proclaimed, is not as simple as it looks, nor as true as appearances indicate. In fact, the "occupational" element is almost a matter for a differential diagnosis of its own. A re-statement, therefore, of certain principles necessary in establishing a clear relationship between employment and disease and disability may prove useful. In considering the merits of the individual case the following questions must be satisfactorily answered:

1. Do the working conditions under which the employee labored represent an actual occupational disease hazard?

2. Has the employee a characteristic occupational disease as claimed?

3. Was the occupational disease in question contracted while working for the employer against whom the claim has been filed?

4. Is the employee disabled from the effects of the occupational disease which he alleges he has?

Four case types have been developed from the answers to these questions:

In Case-Type I, all the requirements are satisfied;

In Case-Type II the employment exposure was not sufficient to cause an occupational disease, but the claimant has an occupational disease contracted elsewhere and is disabled from that disease;

In Case-Type III, while the employment exposure was not sufficient to produce an occupational disease, and the claimant does not have an occupational disease, he is disabled because of a non-occupational disease;

In Case-Type IV the exposure was not sufficient to cause the disease, the claimant does not have an occupational disease, and he is not disabled.

It is evident, therefore, that the factors involved in the medicolegal consideration of occupational diseases present a situation which is far more complicated and intangible than in cases of industrial injuries.

The "Better Book"

THERE'S a lot of truth in the Elbert Hubbard statement, slyly credited to Emerson, to the effect that "if a man builds a better mousetrap, or writes a better book, than his neighbor, the world will make a path to his door." This is often brought to mind in connection with acknowledgments by present authors of their indebtedness to previous publications. Many references, of course, are included for their fixation of chronology, or in apposition to current thought. Some are given as matters of critique; some are merely cumulative. Once in a while, however, the work of a previous author is cited for its wealth of ideas, or the quality and value of its subject matter and presentation. And, occasionally, though much more rarely, the writings of someone who has done original work which stands the test of time become precedents, and are referred to as the accredited rule and guide for what may be now in hand. It is pleasing to note how consistently the work of DR. LYDIA G. GIBERSON on psychiatry in industrial medicine has been cited in the last-mentioned connection. Her work has been such that the debt is due her, whether it is acknowledged or not. Rarely, however, is the credit omitted. The one instance we know of in which an article directly on the subject made no mention of her work occurred several years ago; the article then in question was found to be so plagiaristic of her writings that it was not given space in publication. The immediate inspiration of this comment, however, is that DR. LEGGO and his associates had a footnote in their presentation on "Industrial Psychiatry in the Community of Oak Ridge" (page 243) in which they relate their statement, "There was little authentic information in the psychiatric literature to establish whether or not a psychiatrist had any place in industry, or, if a place did exist for him, a definition of his area," to the fact that what authentic information there was could be found in the various contributions of DR. GIBERSON. These, in usefulness to DR. LEGGO and his associates in the establishment of their most extensive and significant application of psychiatry in industry medicine, were "extremely pertinent and valuable." DR. GIBERSON is the one industrial psychiatrist who has had a long and successful background of employment in that capacity by an industry. We preferred to lift the footnote and print it here—to emphasize the informed opinion already prevalent that her writings, though not yet in the between-two-covers form, are in *her* subject, the "better book."

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General Considerations for Sanitation and Public Health in Tropical Industry

ALFRED GAGE, M.D.,
New York City

AMONG many executive groups in industry there is, unfortunately, an appalling lack of interest and understanding of the importance of public health measures and sanitation, which directly affects each individual in the entire organization in reference to absenteeism and production volume. This is particularly true in many industrial concerns in the United States and, happily, to a less extent in tropical industries, especially those financed and operated by North American capital.

From *Medical Bulletin*, Standard Oil Company of New Jersey, October, 1945.

Although many tropical countries have fairly good laws regarding sanitation and public health there are various factors which tend to nullify them; nevertheless, enormous strides have been made in the past three or four years.

The first task, often difficult for the medical director or doctor in charge, is to convince management of the necessity for instituting the necessary measures. Physicians as a rule are poor businessmen and often fail to weigh the costs of installation and maintenance of these measures against the results expected. It must be constantly borne in mind that a plan may be so ambitious and broad in scope that it will collapse under its own weight or, on the contrary, so inadequate that the objectives are impossible to attain. In either plan we are doomed to failure with a resultant disillusionment of both management and medical personnel. Businessmen deal in dollars and cents, profit and loss, but unfortunately, we have no adequate yardstick by which to translate our results directly into these dollars and cents. Industrial public health and sanitation are so-called "non-productive operations," and are often considered as a distinct liability or necessary evil.

It is not unusual to hear an "Old Timer" remark, "We never had all this sickness until we had a medical department." Such statements reflect a lack of understanding, and, although there is some justification for this attitude, may we ask how many industrial groups keep accurate statistics of lost-time or absenteeism due to sickness or injury? During the present war, much more attention has been focused on this factor; yet the methods of computing such figures vary widely. In some instances such disability begins after seven days, others after three days, etc. In our group, disability begins from the day they are disabled until the day they resume work. Our statistics cover a period of years and show each case of lost time by sickness and injury and by individual disease entities, according to the Standard Classified Nomenclature of Disease, approved by the American Medical Association. By such statistics covering a period of years we are able to show disease trends and disability rates. Therefore, barring unusual epidemics or a large influx of unskilled labor, we may predict, with a fair degree of accuracy, disability rates from year to year.

The management must realize that beneficial results are not immediately apparent, and discouragement should not be allowed to cover the over-all picture until a fair and impartial trial has been made. Therefore, to make definite progress toward our objectives we must have unity of purpose, managerial and interdepartmental cooperation, with coordination of effort based on mutual understanding of the principles involved.

The second important consideration is the education of the personnel. They should clearly understand what we are trying to do and the reasons why. It is the rule

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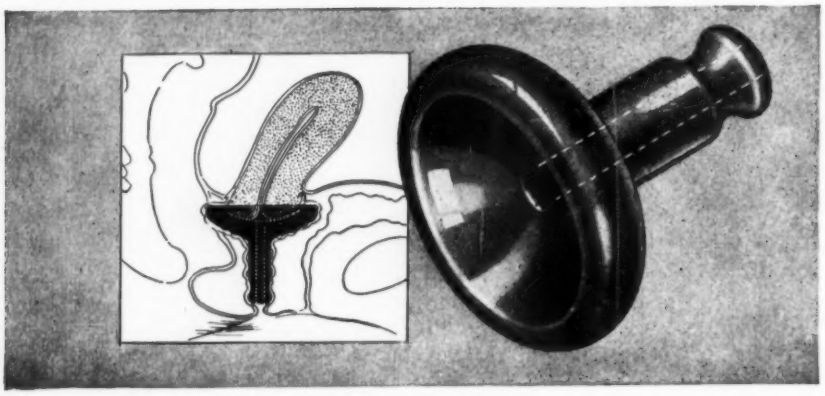

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rather than the exception that orders will be carried out much more willingly and intelligently if each individual concerned believes he is making a direct contribution to himself and to his co-workers, and is an integral part of the organization. Adequate explanations and frequent conferences are essential in order that the executives fully understand the problems involved. Many of them are prone to take modern sanitation and public health measures as a matter of course and may have erroneous conceptions of the procedures necessary for satisfactory installations and their maintenance. North Americans enjoy the highest living standards in the world and are quick to voice their opinions when conditions are below the standards to which they have been accustomed.

In isolated company towns a faucet is opened for a glass of pure fresh water which is generally drunk without a thought as to what happened to this water before it was made potable. Where is the source of supply? What is the type of watershed? What purification and control measures are used? Who is responsible for its purification? These are questions rarely asked or even thought of.

The same may be said of sewage disposal and other essential mechanisms for public health. Unfortunately, a small number learn the hard way by becoming ill from contaminated water or improper sewage disposal in unsanitated hamlets and villages. When once convinced, these small minorities become the most enthusiastic advocates and, of course, are welcomed, for their enthusiasm is helpful to the entire program.

There are many excellent illustrations for demonstrating the necessity for sanitation and public health. For example, contaminated water has caused such serious epidemics of virulent dysentery and typhoid that production has been reduced and even brought to a complete standstill. Ports have been quarantined for weeks or more due to yellow fever or bubonic plague epidemics.

Such possibilities are not to be lightly cast aside for, if given the proper environment, such diseases are always lurking in the shadows and unceasing vigilance on all fronts is neecssary to eradicate them or hold them in abeyance. Such situations are frequently encountered and every method known to modern science must be applied in its proper place at the proper time.

Tropical industry must realize that certain conditions cannot be taken for granted. Some one or some group is actually on the company payroll, or should be, to care for the health of all concerned. They must be given the authority, the equipment and the trained personnel required to direct the program and maintain it in its proper sphere. Once the executives realize the infinite detail necessary to install and maintain public health measures and the necessity for their installation, the battle is won and progress assured.

In tropical countries, when dealing with the average group of laborers, we must accept as a major premise that we are confronted with people who, as a rule, are illiterate, are new to our standards of living and to whom sanitation is not only useless but actually upsetting to their daily lives. We must teach them by slow educational processes, examples and achievement that our objectives are to keep them in good health, reduce disease and raise their standards of living.

This road is very long and tortuous and filled with so many detours that often our forward progress is temporarily reversed. Elementary theory is best taught in the primary schools which, at least in our company, are provided as an integral part of every permanent

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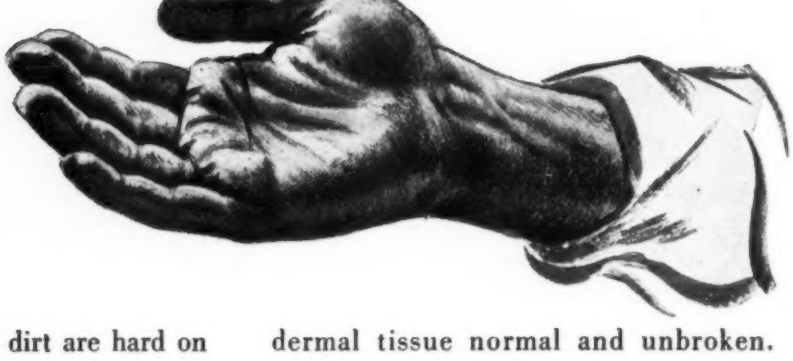

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camp. The children, when interested, will often convince their parents who in turn may be included in a further educational program consisting of lectures, simple pamphlets, moving pictures, and other means suggested by local conditions.

We must also convince the wage earner that by enjoying good health his earning capacity is increased; therefore, he and his entire family are directly benefited. He is able to purchase sewing machines, radios, electric refrigeration and other modern commodities which, in his native village, were either unheard of or available only to the wealthy. He is now a man of means who can proudly take his place in the community—an individual, not just a nonentity struggling for a bare existence.

Before initiating such a broad program for the common welfare it is essential to make a detailed and accurate survey and carefully to study and evaluate each phase of the work proposed. There is no room in industry for physicians, sanitary engineers or other executives who are too proud or ashamed to admit they need outside help to perfect the plans and secure the necessary organization to initiate and maintain the measures essential for public health and sanitation. These sciences are highly specialized and contain specialties within themselves. It is, therefore, self evident that no one individual can possibly know all of their many ramifications. In a smoothly functioning organization the central authority must necessarily allocate the details to the proper personnel, and it is important to secure well trained and experienced men who are capable of teaching their subordinates.

Any industry can save large expenditures of time and money if the proper sanitary installations are made during the construction period. Should this be done, maintenance and personnel are reduced to the minimum and radical changes are seldom necessary. It is not always easy to understand why this is so difficult to prove to management, yet it is the rule rather than the exception. It may be due to the comparatively large initial financial outlay required which the executive group is not willing to approve. Time and time again this problem occurs and in most instances it can be demonstrated that the cost of repairs, maintenance, and new installations over a period of years far exceeds the initial costs of proper primary installations. This attitude is not projected to equipment and machinery for production. The best and latest tools are installed which increase efficiency and reduce costs, so here again we return to the question of dollars and cents, profit and loss.

At present the entire question of public health and sanitation in tropical industry is being given the most serious consideration. The general trend is definitely toward expansion, increased effort and the provision for adequate installations and trained personnel which is so essential in both camp and field work. Probably the best approach to this problem is by contrasting the beneficial effects in an industry with adequate provision for such measures against an industry not yet willing to adopt them. The reduction in absenteeism, lower disability rates and a definite elevation of health standards always result in increasing individual efficiency which is reflected in work output.

During the first few years there may be an increase in sickness and disability rates which is more relative than factual. This is due to three reasons:

1. Accurate statistics on injury and disease.

2. Increase in the number of employees reporting for many minor conditions previously ignored. This in itself reduces the duration of lost time per case as immediate supervision decreases the severity rate.

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(1) Combes, F. C.: Indus. Med., July, 1944.
(2) Parkes, Morey: Indus. Med., January, 1944.

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By BERNHARD J. STERN

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223 pages *1946* *$1.50*

Nursing in Commerce and Industry

By BETHEL J. McGRATH, R.N.

This guide to the duties and responsibilities of the industrial nurse covers all phases of her work, her place in the organization, her relationships with physicians, officers, and employees, her role in occupational and non-occupational illnesses and accidents, records and reports, the physical facilities of the nursing service, workmen's compensation, rehabilitation, and many other problems. The manual was prepared for the National Organization for Public Health Nursing. A practical handbook for industrial nurses, and useful also to industrial physicians and surgeons, and to company executives who are concerned with the health of employees.

368 pages *1946* *$3.00*

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When we consider the vast numbers of our young men rejected by the armed forces due to lack of physical fitness, we should add the full weight of our organizations to "sell" public health and sanitation to industry.

In the early twenties practically all medical departments concentrated their efforts toward curative rather than preventive medicine, but at present this attitude is being gradually reversed and preventive measures are receiving much more attention. Many years ago it was proved conclusively that in so far as controllable diseases are concerned the number of hospital admissions is inversely proportional to the amount and character of field work in sanitation and preventive medicine. This, of course, is nothing new and is well known to medical organizations in tropical areas.

Local Laws and Customs

UNLESS laws and customs are carefully studied and understood, the entire program for constructive work in the field of sanitation and public health may fail dismally. Where the work contemplated by an industrial group is at variance with laws and established customs, it may be necessary to change the plans or to revise the laws and, by education and other methods, modify the viewpoint of employees and local inhabitants.

In such cases, if the project is large enough, it is wise to discuss the plans and expected benefits with the Minister of Hygiene and other government officials. As many of our ideas may be new and strange to them, extreme tact is necessary in all conferences and individual conversations. Far too often Europeans, and especially North Americans, with no knowledge of the psychology of the people with whom they are dealing, endeavor to gain their points by sheer weight of numbers, finances and statements comparing local conditions "to what we have at home." These methods are of little avail and generally result in antagonism on both sides which not only affects the immediate problem but may directly influence future plans. When an impasse of this nature has developed, a different and more tactful group should be selected for further discussions with government officials. Throughout such discussions the industrial group must convince the officials by illustrations, examples and figures, that the main beneficiaries from such a program are the national employees and their families. In tropical industry the ratio of national to foreign employees is very high and this fact must be constantly emphasized.

By raising the health and living standards of such groups, the community as a whole also reaps decided benefits. We must always work in closest harmony with local officials, government physicians and sanitary and public health groups. Never be too forward in offering service and advice but let it be known that the "company" is willing and anxious to cooperate in so far as its facilities and policy warrant. Outside sources may often request assistance which is impossible to render or not feasible for economic reasons. Refusals should be tactful and adequate explanations given although at times neither side will ever understand the attitude of the other.

No industry should be expected to bear the burden of sanitation of surrounding towns and hamlets, particularly so, as the company alone builds and maintains modern towns, sanitates them, provides good medical care, and education for their employees and their families. If this is understood at the beginning, the future industrial pathway will be less difficult to follow.

The foreign group must always remember they are living in a country where laws and customs may be far different from those "at home"; however, they must be accepted and conformed to. When a member of this group is dissatis-

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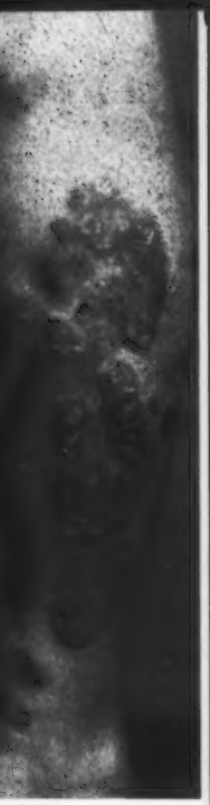

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fied, he can always return from whence he came. When criticizing these countries and their people, a person should reverse his position and ask himself how he would react if one of the "nationals" used the same tactics if, let us say, he was visiting Vermont, California, or "the home town." Again, every foreigner in these countries unofficially represents his own government and by his conduct reflects credit or discredit on the country of which he is a citizen.

The foregoing, is in my belief, essential to the welfare of any industry in tropical countries. Management must realize this and it should be the duty of our personnel and industrial relations departments to stress these facts to each prospective employee, and to reiterate them from time to time.

We have endeavored to show by schematic representation the organization for sanitation and public health work in tropical industry. As shown on the chart, we must first secure the approval and cooperation of the industrial management.

Subsequently, since no one department is self-sufficient, we must have cooperation from such departments as construction, engineering, and others, and they, in turn, rely on our department for the maintenance of health among the employees.

If the line connecting our department with that of the management and with other departments is broken, the entire program will fail, since cooperation and coordination of effort are vital to the success of our work. With this cooperation and mutual understanding of our objectives, we must rely upon our hospitals, sanitary departments, outpatient clinics and field units, as constant attention to minute detail is essential in public health work. Diseases are controlled only by constant effort through many minor details which, in themselves, appear insignificant —yet in the aggregate, make or break any program depending upon the amount of intelligent supervision, cooperation and continuous attention to all phases of these operations.

Our objectives must be clearly understood by all parties concerned and, by education and example the results may be demonstrated over a period of years. Having our objectives clearly in view, we more or less follow this chart, using it as a guide for our work in this important aspect of preventive medicine.

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In conclusion, we must remember a factor of paramount importance. After the program has management's approval and has actually begun to function, unceasing vigilance is required on the part of each member of our group. Every phase of the operations must be carefully watched and frequent or almost continuous inspections made to weld each separate link into an unbroken chain leading toward our objectives which are reduction of accidents and disease, and a substantial increase in health standards.

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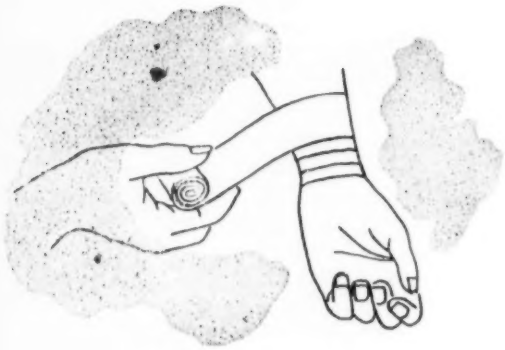

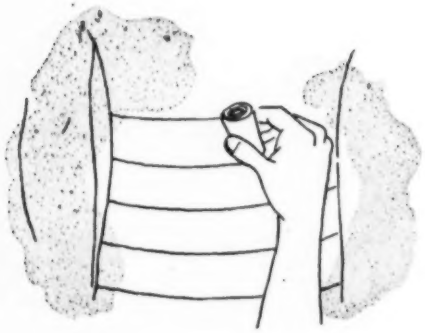

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Some Thoughts After Thirty Years In Industry

—Chairman's Valedictory Address, delivered to the Association of Industrial Medical Officers, at the London School of Hygiene, October, 1945—

J. C. BRIDGE

HAVING had something to do with industry during two great wars there is certainly one good thing in my opinion has emerged from them, and that is the increasing regard which has been paid by the government, employers and people in general, to the health of the workers. These men and women have done a task which has enabled us to look forward to the avoidance of another war which could well decimate our children and our children's children. We must not, however, forget that in the peaceful times even before the war of 1914-18 there were men practising industrial medicine not only in this country but abroad, for example Arlidge, Oliver, Rambousek and Gilbert. By the practice of their profession and their writings these men had undoubtedly shown the important part that medicine must play in the well-being of industry. But I venture to suggest that so far as this country is concerned, the appointment of Whitlegge as Chief Inspector of Factories and the subsequent appointment of Legge as Medical Inspector of Factories were landmarks in the history of British industrial medicine, and did much to emphasize the essential role that medicine must play in industrial affairs.

So much has changed in industry since I was first closely associated with it 30 and more years ago that it is difficult to know where to begin. All that it seems possible for me to do is to pick out some of the outstanding features that occur to a single individual like myself.

One of the most striking things that I find changed is what I may perhaps call the general environment of the worker to which so much attention is now given. My friend Dr. Merewether, in his Annual Report for 1943, says: "One can hardly fail to have noted in factories this enhanced consciousness of the importance of healthy living and interest in the means by which it can be achieved." More and more have those concerned with industry appreciated the importance of environment, of matters such as tidiness in the shops, as adding to the comfort and well-being of the worker. Who, 30 years ago, would have thought of the safe passage marked by white lines in an engineering shop for example? In the environment of a worker I must include amenities such as washing accommodations, cloakrooms and the like. While the pail which could be filled with warm water in which the workman washed his hands is still extant, the more convenient forms of washing accommodation, with hot and cold water laid on, with towels, soap and nail brushes, are indeed more the rule now than the exception.

However much I may dislike the term "welfare," I feel that we owe not a little to the impetus given to industrialists for the provision of amenities by the activities of the society institutes and continued by my old friend Mr. Robert Hyde. There were few canteens, if they could even be described as canteens, 30 years ago. In my submission there has been no greater contribution to the well-being of the industrial worker than the establishment of canteens at his place of employment. This has been one of the main factors that enabled him to carry on throughout the hard and strenuous years of the late war. I must pay my tribute to my colleagues at the Ministry of Labour who took part in their establishment and to the Minister himself who was so far-seeing as to make them a requirement in factories concerned with the production of materials for war. I personally express the hope and belief that in the peace which we expect will eventually follow, industry will continue this service which is so important.

Some Toxic Hazards

TURNING to the definite industrial hazards, industrial poisonings and diseases, and looking back to the days when lead, arsenic, phosphorus, mercury and anthrax were those diseases to which our special attention was directed, no little progress has been made in the recognition of other poisons and diseases which are contracted

From *British Journal of Industrial Medicine*, 2:4, 244-246, October, 1945.

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in industry consequent upon employment. Recognition, however, must precede prevention and the channels of the attack of the noxious substance must be established before we can approach prevention in an understanding manner. The outstanding example of the importance of recognition, both of the disease and of the channels of absorption of the causative agent, is exemplified by the work of Legge. By careful observation he not only showed that inhaled dust of a lead compound was the prime factor in the causation of lead poisoning, but also estimated that 2 mg. of lead in 10 cubic feet of air if inhaled daily would produce poisoning. As a result of this observation he advised preventive measures which reduced the number of cases of lead poisoning from over 1000 in 1900 to 72 when I left the Factory Department in 1942. Others, following Legge's example, have enumerated various air concentrations of toxic substances which will cause poisoning.

I must refer also to Legge's work on anthrax. Those of you who are interested in the subject must, I feel sure, have read his Milroy Lectures on this disease. He introduced into this country the sclavo serum, a romance of the prevention of the fatal consequences of an industrial disease; and indeed it was a true romance because he brought it back from Italy on his return from his honeymoon.

Thirty years ago there were those recognized poisonings and diseases to which I have previously referred but others have since been recognized. Today some 43 diseases are on the compensation list. It is interesting, looking back, to find how the nomenclature of one condition fits in with a similar condition caused by quite a different substance. For example, in 1915 toxic jaundice was made a notifiable disease on account of its occurrence among workers using tetrachlorethane. Shortly afterwards cases of jaundice arose from exposure to TNT, by chlorinated naphthalene, to say nothing of the jaundice produced by the inhalation of arsine.

A grave hazard can be produced not only by the introduction of new chemicals into industry but also by the use of even well-known chemicals in a new process. In the rayon industry, for example, in which the cellulose is dissolved in carbon bisulphide, the use of carbisulphide gave rise to the possibility of serious illness and I have recollections, in the early days of this industry, of seeing several workmen suffering from chronic carbon bisulphide poisoning. More recent innovations into industry produced by research workers, for example the numerous organic solvents, the organic chemicals used in the dyestuffs industry, lead tetra ethyl, chlorinated naphthalenes, and the extensive use of luminous paints containing mesothorium, have all raised important health problems. In connection with this last substance, I introduced the term "toxic anemia." For the purposes of notification I was perplexed to find a term for the condition which was produced not only by the way of radium but also by other substances; the anemia was found to be of a dyshemopoietic character. One has been concerned also to think of the potential hazards to workmen engaged in the preparation of the atomic bomb.

As to the mode of entry of toxic chemical substances we have some knowledge, but as to the reaction of these substances on the metabolism of the body once they get into the body we are in considerable ignorance, and it seems to me that until we can elucidate this problem we shall never really arrive at the true solution of the method of prevention. The recognition of carcinoma of the bladder arising in industry, following that of carcinoma of the skin, is historical, but with the introduction of new chemicals its significance has increased. I cannot leave the subject of industrial cancer without referring to the great work done on the subject by my colleague, Dr. Henry. It has always been my hope, which perhaps some day will be fulfilled, that the knowledge we obtain in industry of such diseases as cancer of the skin and of the various forms of anemia, may lead eventually to the elucidation of the causes of these diseases in the general population, but so far my vision has not been realized.

When I joined the Factory Department 30 odd years ago, Professor Collis was then engaged on the study of silicosis as it occurred in this country. While I feel that every attention was given to his Milroy Lectures, it was unfortunate that they were delivered during the great war of 1914-18. Much progress has been made since then in the study of this

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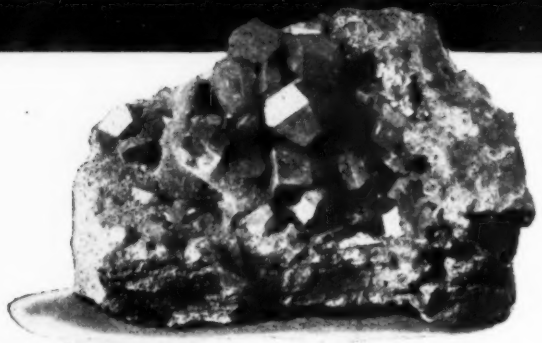

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disease, but while Collis did point to the possibilities of silicates causing lung fibrosis little was known until our attention was drawn to cases of lung disease occurring in asbestos workers in Scotland. A very full and careful inquiry made by Dr. Merewether established without question a definite pulmonary disease caused by the inhalation of the dust of asbestos. One of the great problems that has always faced us in connection with silicosis has been the grinding of metals and the cleaning of castings, and Dr. Middleton's work on this aspect of the problem is no doubt well known to you all. One of the most frequent causes of silicosis was the cleaning of castings by sand-blasting, and I must confess that at first the alternative use of steel shot for sand appeared the solution. But it was not long before I realized I was mistaken, for reasons too detailed to consider now. I was more than glad to learn that the new code of regulations issued this year by the Ministry of Labour prohibits the use of sandblasting, but the problem of silicosis in the cleaning of castings is not yet solved —not even by the hydroblast—and the hazard in the fettlings of such castings has yet to be prevented. I trust the Committee of the Factory Department which is now sitting will give their fullest attention to this matter in the near future.

The production of highly lethal chemicals, particularly, for example, lead tetra ethyl, organic mercury compounds and war gases, has necessitated the re-orientation of our ideas as to the proper method of dealing with hazards due to poisoning caused by fume and dust. My colleague in the Ministry of Labour, Mr. Wilkes, has recently addressed the Association on the necessity for complete enclosure of plant when dealing with highly toxic substances such as these. This method of dealing with process of a high hazard should be developed and I feel sure that chemists, and engineers concerned with industry are having and, will in the future, have regard to the elimination of all risk by these means.

Research

IT SEEMS right that in briefly reviewing the work of the past few years in industry one should mention the subject of research. It has always been my hope that the study of an industrial disease, similar in character to that occurring in the general population, should lead to some better knowledge of the disease and its prevention in the population as a whole. Research in industry must not only be a study of the disease and the mode of attack of the causative agent, but also the measures necessary for its prevention. For this research the medical officer, the chemist, the physicist and the engineer must form a cooperative team to work out the solution. While fully appreciating the work that has been done by the Industrial Health Research Board, the scope of this body must necessarily be limited. It is true that the activities of the Board have recently been extended by the setting up of the Department for research in industrial medicine at the London Hospital under Dr. Donald Hunter. In 1935 the Home Office asked the Medical Research Council to set up a committee for the investigation of industrial pulmonary diseases, but just at that time there arose the problem of a disease amongst coal miners atypical of silicosis and the need for compensation overshadowed other inquiries into pulmonary diseases occurring in industry which might then have well been made. We know little yet of the effect of so-called inert dusts on the lungs although considerable field work has been done by McLaughlin, Doig and others.

In 1936 the problem of the numerous organic solvents coming into use in industry and their effect on health was one which called for further investigation, and the Medical Research Council, at the request of the Home Office, set up a committee known as the Committee on the Toxicity of Industrial Solvents under the chairmanship of Sir Joseph Barcroft. The committee's work was circumscribed and its progress was limited during the year or two that elapsed before the outbreak of this war. It was impressed upon me that no committee of this character could function effectively without a research department, so I had in mind the setting up by the government of a research department which should be intimately associated with the Factory Department and to which industrialists and others concerned could bring their problems. There was, and there still is, a research department at Porton associated with chemical war-

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fare which long before the war I visualized could be turned over to the solution of peaceful problems and the prevention of industrial ill-health. I still hold the opinion that the establishment of a central research department, controlled by the government, is essential, but while saying this I do not for one minute suggest that industry itself should not continue to carry out research in its own spheres.

Compensation

WHILE no doubt the new social insurance legislation dealing with industrial accidents will remove many of the disadvantages of the present system, I am not very happy about it all. It may be that I have a bee in my bonnet, but I am afraid that bee has been buzzing for a very long time. I take it that payment of compensation for an injury is not really compensation but secures, for the injured workman relief of anxiety as to the economic position of himself, his wife and his family. We are, as medical practioners, fully appreciative of the necessity for relieving anxiety not only in cases of injury but also of illness. I am therefore equally concerned with the ill workman who is suffering say from pneumonia or typhoid fever, and with his wife and family; he contracts these diseases without any suggestion of contributory negligence at his place of work. Compare his case with a young adult who has a simple fracture arising out of his employment. I fail to see why the workman disabled by disease should not be relieved of his anxiety to the same extent as the workman disabled by accident. With the various Medical Boards and Tribunals that are set up there should, so it seems to me, be no difficulty in debiting any benefits paid to the man to the appropriate fund. I believe too that this would get rid of a large measure of mistrust towards our profession when we have to say to the workman, for example, that through no fault of his own he has a disabling skin disease not in our view due to occupation; in such case we are obliged to tell him that he will get less relief from his anxiety. If the workman is to be insured let him be insured against sickness and accident at the same rate. Who of us can say that a bronchitis is in all cases definitely not due to a man's occupation? I am afraid I cannot.

Medical Supervision

I AM GOING to be so presumptuous as to say that I regard myself as the father of medical supervision in industry in this country. True, for over 100 years the state has exercised some supervision of industry by the appointment of Certifying Surgeons—after the passing of the Factories Act of 1937 designated Examining Surgeons—but their functions are very limited and are mainly concerned with the examination of young persons. In my younger days, as a matter of interest, young persons included youngsters, of 12 years who were employed as half-timers. Examining surgeons were, and still are, employed to carry out periodic medical examination of workers engaged in process covered by certain regulations dealing with occupations giving rise to a health risk, but I think most of the work of the examining surgeon should be performed by the medical officer who is responsible for the medical supervision in the factory. During the war of 1914-18, and also during this last war, an increasing impetus was given to medical supervision. The Ministry of Munitions in the 1914-18 war and the Ministry of Supply in this last war organized and established a pretty complete system of medical service. But we must not forget that during the intervening period private enterprise established, on an increasing scale, a medical service for their industries and I am going to be so bold as to say that these services in most instances cared for the health of the worker in a manner not inferior to that exercised by the Ministries. Not one of us can wish to see medical service in industry diminished, and this Association has on more than one occasion expressed the view that a medical service should be extended not only to cover places that make things but to all branches of industry and occupation. The Association, too, has placed itself at the disposal of any department wishing advice on the formation of a plan for an organized industrial medical service, that is a service which would fit in with any jigsaw puzzle of comprehensive health scheme. Speaking for myself I trust that in the end whatever scheme is devised the individuality of the industrial service will not be lost, yet it is vitally important that it be linked with the wider health service which is now being planned. Those who would divorce the indus-

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trial service or attach it to local authority control ought to revise their views. I care not whether the control be lay or medical.

The Association has recently published a report on the education of the industrial medical officer. This, I suggest, indicates the special knowledge that it is desirable a medical officer in industry should have. In this connection you may have seen that a Diploma in Industrial Health has now been set up by the Society of Apothecaries; surely this is a landmark in the history of our subject. In the next year or so there will be an opportunity to establish a medical service in industry in Great Britain which I firmly believe can be made second to none, whether it be in the U.S.S.R. or the U.S.A. or anywhere else. It is up to you young men to see that the service is formulated to do what is best for the workman.

Rehabilitation

I CANNOT finish without a word or two on rehabilitation. During the war of 1914-18 efforts were made in this direction but they were limited and many faded out. It was a grief to me and although I made some attempt to keep them going for the workers I got little support. But today everybody is talking about rehabilitation. However, I warn you not to imagine that the ball is going to roll on without an occasional kick and sometimes it may have to be a very hard one.

The Future of the Association

IN CONCLUSION I come to a domestic matter—the future of the Association. It was undoubtedly necessary to widen admission to the Association by including those members of our profession who were only engaged for a part of their time in the practice of medicine in industry. This was achieved by the admission of associate members. I am doubtful, after very careful thought, whether it is wise to continue this differentiation and whether it is not now time to consolidate the Association. I doubt whether the primary object of the Association, namely, the scientific study of our subject, is best met by full meetings of the Association with its increasing numbers. This view has already been partly accepted by the formation of local groups. The question is whether it should not be extended.

Therefore, I suggest that the time has now come for the formation of local groups. The question is whether it should be extended. So I suggest that the time has now come for the formation of a small elected Council to carry out the routine work of the Association, and that the full Association meetings should be limited to an annual or bi-annual gathering.

BOOKS

Electrocardiography

Book Review by
NATHAN SMITH DAVIS, M.D., F.A.C.P.

CLINICAL ELECTROCARDIOGRAPHY, by DAVID SCHERF, M.D., F.A.C.P., and LINN J. BOYD, M.D., F.A.C.P. Second Edition. Price $8.00. Pp. 267, with 409 illustrations. Philadelphia. J. B. Lippincott Company, 1946.

IN THE second edition of this well known book, the authors again emphasize the practical applications of electrocardiography and its correlation to clinical findings and therapy. Many sections have been completely revised; others expanded and improved by the addition of new observations of importance to diagnosis and treatment. Sections on some of the rarer phenomena have been added. The stressing of the fact that certain changes in the electrocardiogram which are usually associated with cardiac pathology, may also be found when the heart is normal, is especially to be commended. This book is designed for those who wish to have a thorough understanding of electrocardiography rather than as an aid in the routine interpretation of electrocardiograms.

Six Times a Year

THE Williams & Wilkins Company, Baltimore 2, Maryland, announces that, effective with the January, 1946, issue, *The Journal of Industrial Hygiene and Toxicology* will be issued six times a year rather than 10 times. Issues will appear in January, March, May, July, September, and November. There will be no changes other than the frequency of publication. The same number of pages per volume will be published, and the subscription price will remain the same.

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Productivity of the Handicapped

—Discussion following the Session on "Putting the Disabled Veteran Back to Work: III," at the Tenth Annual Meeting of the Industrial Hygiene Foundation, Pittsburgh, November 14, 1945—

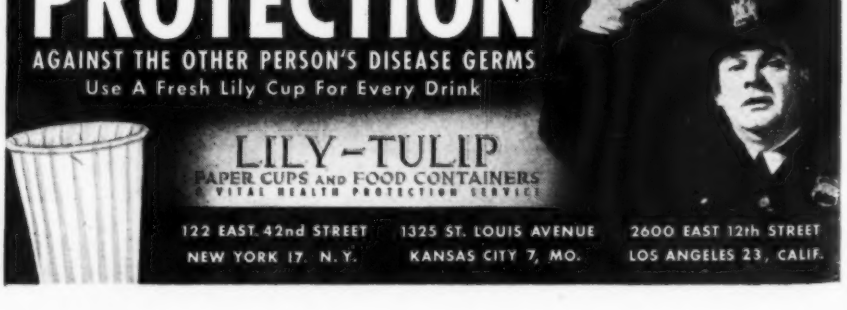
COLONEL JOHN N. ANDREWS (National Headquarters, Selective Service System): There is time for questions. I would like to ask DR. VONACHEN if the productivity of the handicapped person is equal to others, and does industry support the program as a result of favorable experience in utilizing men presumed to be handicapped?

DR. H. A. VONACHEN (Medical Director, Caterpillar Tractor Co.): I can only answer on the basis of experience of about eight months. The government requested us to make a survey of handicapped people. We hesitated to do so, owing to the lack of statistics; we agreed, however, to undertake the study with the understanding that it was to be a survey of good, trying, honest-to-God people, endeavoring to overcome handicaps. It was interesting to find out that, on the average, the handicapped person's productivity was normal, that is, equal to that of a normal individual. We also found, interestingly enough, that the highest individual in the group of above-normal production was a handicapped worker, whose rate was 137%. Moreover, we found that those handicapped who were a little bit below were the unskilled—and all the handicapped were unskilled when they came to us—they were, however, far better than those who had not been trained. I think it was a challenge to us that we did not try to raise the level of those particular individuals by additional training, because the more we did that the better the results were. But as a whole, COL. ANDREWS, I would say very definitely that there is no charity involved in a handicapped program, and I say that most sincerely.

COL. ANDREWS: I wonder, MR. SUPA, in your experience at IBM, whether you have found that there are more hazards involved in the utilization of handicapped than non-disabled workers.

MICHAEL SUPA (Supervisor, Physically Handicapped Personnel, International Business Machines Corporation): First, our experience has been similar to that reported by DR. VONACHEN. In terms of actual production, as far as statistics show, results are about the same for both. But about the hazards, I think it is necessary to work out the program the same as you would any other program, with the safety department and the personnel department, so that it is possible to select a situation where no one will be unnecessarily hampered. Another viewpoint, however, in this matter, is that persons already having some handicap are naturally going to be more cautious in what they do. They do not want added defects. They develop certain techniques whereby they are able to know of the presence of danger through means that perhaps other people do not use. I read of this true incident the other day: a blind person was operating a form of machine in his own home, and a foreman from the plant visited him to see how it operated. During the time he was there the blind man had occasion to go upstairs and the foreman said, "How in the world did the blind man find where the moving part of the machine is without tearing off his fingers?" He investigated by putting his fingers in, and as a result had to go to the first aid! When he was able to talk about the situation he said, "Certainly when you work that thing you never get hurt." The blind man replied, "You see, I don't touch the moving part; I determine the location by the air current about it." That is just one example, but a good one, of developed techniques that may be employed with the assistance of the medical, personnel and safety departments.

DR. ANDREWS: DR. VONACHEN, do you have any statistics on the relative hazards, the accident rate for the handicapped as compared with the normal person?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DR. VONACHEN: We found in the survey that the accident rate for the handicapped was less than for the normal persons, and I think that is explained by the fact that those people, having one sad accident or disability, are more careful. Secondly, the proper placement of handicapped persons prevents accidents. I think the accidents that occur are due to the fact that you are exposing them to hazards to which they should not be exposed.

A MEMBER: DR. VONACHEN, from your experience what department do you think should have charge of this program?

DR. VONACHEN: Our program is entirely in the hands of the medical department. I think the fullest and the most complete tests can be made by medical men. I think that the psychotherapy treatment should be in the hands of a clinical psychologist. I say psychologist rather than psychiatrist because the psychologist will determine whether the case is one beyond which we should not go, one which we should not undertake. I think then we should be merely case finders, but I do think that a good clinical psychologist who has his feet on the ground and knows industry's problems can do much for the person who has emotional instability.

A MEMBER: I would like to know the ratio of the turnover rate at the Caterpillar Plant, of the handicapped as against the others. Do you have the rate of turnover?

DR. VONACHEN: First of all, the labor turnover among veterans is extremely low, but our rate runs very high for those who never worked before. This is explained by the fact that a great many of these people don't know what industry is. Our veterans' counsel try to tell the boys all the disadvantages. We can't blame them when they find that they can't stand it. Even in cases where we need the work badly it is better to tell them the facts, that they are going to work on the third shift and that their meals and social life are going to be disrupted, and then if they decide to go ahead, all right. As for the handicapped people, the greatest difficulty that I have seen is that they may not fully recognize their limitations. The handicapped worker sees another job which appears more desirable. He knows, with respect to safety, that he should not be on that particular job, but does not fully understand why we can not make that job safe for his particular handicap; so very often he feels that he isn't getting the breaks, and quits. Education of the various types of handicapped in this matter is needed, because we actually feel that they should not be employed when the safety factor is not there.

COL. ANDREWS: DR. LUTZ, we would like to hear of your experience.

DR. EARL F. LUTZ (Associate Medical Consultant, General Motors Corporation): As a general rule, we have had the same experience that DR. VONACHEN speaks of. The turnover among the veterans who have never worked before is extremely high. The old employee who returns to his job is usually well satisfied. Sometimes there are complications, such as the case of the former office boy who returns as a Captain, and is no longer fitted for the office boy job. According to law he is only entitled to the job of office boy, but we undertake to find him a job that he can do. I agree with all that DR. VONACHEN has said; although I do not have the statistical proof, our conclusions are the same.

DR. SHOUDY (Bethlehem Steel Company): Our experience is in agreement with what DR. VONACHEN and DR. LUTZ have brought out. The old employee who has returned to his job will stick, but those with no previous industrial experience who had worked only a short time look for better jobs. However, I do not anticipate any real trouble in satisfying the returned veteran if the job is thoroughly explained and understood. As DR. VONACHEN has pointed out, after fully explaining the job and conditions of work, the applicant who says "That isn't what I want; I want a better job" can be disposed of.

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A Preliminary Report on the Production and Use of Crude Penicillin Solution in a Naval Dispensary

ALBERT R. AGMAR, LT. COMDR. MC-V(S), USNR.

THE technique developed at the Experiment Station, H.S.P.A., for the preparation of active solutions of penicillin and inoculated gauze surgical dressings was applied in a naval dispensary. These materials have proved dramatically effective for such minor infections as boils, carbuncles, secondary epidermophytosis of the feet, eye and ear infections, chronic leg ulcers, infected cyst teratoma, etc., for which purified penicillin was not obtainable. In these cases the usual period of hospitalization was reduced materially, an important factor in activities with limited bed capacity and large transient case load. Fourteen selected cases treated successfully with the active preparations are described. This project has been officially authorized for expansion to establish a source of supply of penicillin solutions and inoculated surgical dressings, and possibly other similar antibacterial preparations for the Fourteenth Naval District.

The penicillin allotted to naval dispensaries is designated for certain specific purposes so that many patients with types of minor localized infections that would be benefited by its use are, up to the present time, unable to be treated with it.

Fleming[5] suggested that filtrates of broth cultures of *Penicillium notatum* might be efficient antiseptics for topical applications to areas infected with penicillin-sensitive microbes. It has been noted by many workers that topical application of solutions of pure penicillin are very effective in the treatment of localized infection. Florey and Florey[6] used such solutions with success in the treatment of infections of the eyes, mastoids, etc.

In Haiwaii, where pure penicillin for civilian use was practically unobtainable until very recently, Larsen[9] treated 23 cases with culture solutions of *P. notatum* or surgical dressings inoculated with this mold. In a current paper[10] he cites 10 representative cases selected from an additional 50 cases treated. Johnson[8] reported the successful use of such penicillin preparations in extensive cases of impetigo which had proved resistant to the usual mercury and sulfathiazole treatments. He stated, "Its action on staphylococcus makes it especially suitable for use in skin diseases."

The inoculated gauze dressings were developed in 1943 by Carpenter[7] independently of and almost simultaneously with the similar dressings described by Robinson and Wallace.[12] The solutions and inoculated dressings used by Larsen, [9,10] and the major portion of those used by Johnson[8] as well as those used at first by the plantation hospitals of the Hawaiian Sugar Planters' Association were prepared at the Experiment Station of that Association by Carpenter, Weller and Martin[3] under the supervision of Dr. Nils P. Larsen. Several hospitals on the islands of Hawaii, Maui and Kauai currently prepare their own penicillin materials for more efficient distribution. Carpenter, Weller and Martin have developed a simple, efficient method of production that can be carried out with a minimum of equipment by any technician after a few hours of instruction. It could be carried out rapidly in any naval medical activity once the necessary chemicals, bottles, and a pure culture of the mold *P. notatum* known to produce penicillin are obtained.

The Experiment Station, H.S.P.A. has supplied large quantities of culture solution and inoculated gauze dressings to doctors and hospitals in the Hawaiian Islands for over a year with consistently excellent reports of their successful use. This wide use of crude penicillin solution, applied locally, has shown that it combines several very desirable qualities, among which may be mentioned the following: (1) Low toxicity to tissue cells. (2) Highly potent bacteriostatic action. (3) It is not inhibited by pus, peptone, blood or autolysates. (4) It is confined to the site of infection. (5) There is a high local concentration where needed. (6) It prevents the spread of infection. (7) It is fast acting. (8) Susceptible organisms do not seem to become "penicillin fast."

At the medical station where this work was conducted, the use of penicillin gauze and crude penicillin solution has been found to reduce considerably the usual length of hospitalization in such local infections as boils, carbuncles, secondary infections in epidermophytosis of the feet, external auditory canal infection, otitis media, eye infections, infected cyst teratoma, chronic leg ulcers, etc. This time saved is an important factor in an activity which has a relatively small bed capacity and a large transient case load.

The use of sulfonamides has been an aid in cutting down the time lost by such infections but they are frequently found ineffective in certain cases and often cause toxic reactions. Crude penicillin solution so far in our experience has not caused any reactions and works more rapidly than the sulfonamides, with no case apparently becoming "penicillin fast."

We have used the methods developed by Carpenter, Weller and Martin[3] for the production of penicillin preparations, which may briefly be outlined as follows: The culture medium is a modified Czapek-Dox medium to which 0.001 gram of zinc sulfate and 10 grams of yeast extract (Difco) are added per liter. These supplements apparently favored the rapid growth of *P. notatum* and a more rapid production of penicillin. The complete formula of the medium is as follows:

KH_2PO_4	1.0 Grams
KCl	0.5 "
$MgCO_4—7H_2O$	0.5 "
$NaNO_3$	3.0 "
$ZnSO_4—7H_2O$	0.001 "
$FeSO_4—7H_2O$	0.01 "
Glucose (candy-makers)	40.0 "
or	
Dextrose C.P.	14.8 "
Yeast extract (Difco) 1%	10.0 "
Distilled water q.s.	1000.0 cc.

Adjust to pH 6.5 with N/10 NaOH or with sodium citrate.

If candy-makers glucose is used, dissolve the 40 grams in hot distilled water (about 100 cc.) and pour the solution into a one-liter volumetric flask, then add the salts in the order

Reprinted from *The Hawaiian Planters' Record*, First Quarter, 1945, 49:1.

listed. Then add the yeast extract and distilled water sufficient to make one liter. The pH is adjusted after the ingredients are thoroughly distributed in the medium.

Carpenter found that the pH of the medium could be adjusted with practical accuracy by determining the amount of sodium citrate required to adjust one liter to pH 6.5-6.8, and to use this amount of sodium citrate, or a multiple of it, for subsequent batches of media wherein the same lots of materials were used. This method is convenient in laboratories where colorimeters or potentiometers are not available. We have used this method and checked the pH value roughly with nitrazine test paper and standard color charts. We have also used standard-test color solutions in a La Motte colorimeter with chlorophenol red and bromthymol blue as indicators. As occasion required F. R. Van Brocklin, Associate Chemist, Experiment Station, H.S.P.A., has kindly determined the pH values of our culture media and culture solutions with a potentiometer.

In preparing gauze dressings for inoculation with *P. notatum* we have adopted a technique devised by Weller.[3] Gauze squares 2¼ by 2¼ inches are cut from eight-ply 20 by 12 gauze. Ten of these dressings are placed in an overlapping shingle arrangement in a 500-cc. Baxter intravenous glucose bottles, one-half of each dressing resting against the side and the other half against the bottom of the bottle, with a point of each projecting upward. One hundred cc. of the medium are added to each bottle which is stoppered with a loose cotton plug. The bottles are then sterilized at 15 pounds pressure for 15 minutes and allowed to cool in the sterilizer to prevent breakage and contamination by any inrush of air if cooled too rapidly. When sufficiently cool each bottle is inoculated with two cc. of a spore mixture prepared by first adding enough sterile distilled water to a nutrient agar slant of a pure culture of *P. notatum* to just cover the mold growth. The age of this source culture for the spore suspension is important; best results follow when the culture used for inoculation is about four or five days old and not older than 10 days; cultures reaching a suitable stage for inoculation may be held under refrigeration until needed. With sterile technique the spores are scraped from the slant culture with a platinum loop. The tube is flamed again and plugged and agitated for several minutes. The spore suspension is added to 25 cc. of sterile distilled water and mixed thoroughly by shaking to distribute the spores. After the two cc. of the spore suspension are added to the medium in each of the bottles by means of a sterile pipette, the bottles are agitated gently to distribute the spores over the pads without disarranging them.

The bottles of dressings are kept at room temperature until the mold becomes blue-green in color which indicates maximum penicillin formation; this usually takes place in four or five days in Hawaii. The liquid and the lower surface of the dressings are by this time golden yellow. The pads are then ready for use and must henceforth be refrigerated to maintain potency. The fluid in the bottles should be assayed at this time. Once having become yellow the fluid maintains potency for from three to 10 weeks under refrigeration.

The individual dressings are removed as needed with sterile forceps and placed directly on the wound, mold side up. To prevent absorption of the fluid into the external dressing we place a piece of waxed paper over the penicillin impregnated gauze and apply any necessary dressing or bandage over it. The gauze pads must be kept moist at all times to be effective. They should be changed when dry or more penicillin solution may be added from time to time. A small amount of penicillin solution in a sterile Rx bottle may be given the patient with instructions to add it to his dressing when it becomes dry. This supply bottle should be refrigerated when not actually in use.

The Baxter bottles of penicillium-inoculated gauze are especially useful in the Navy as they are easily transportable, the small amount of medium is held in the gauze, and the excess fluid is not enough to slop around or spill out. The bottles can be transported to other dispensaries and ships; refrigeration is unnecessary between the time of inoculation and the development of the blue-green coloration of the surface of the pads and the yellowing of their lower surface (a period of four or five days).

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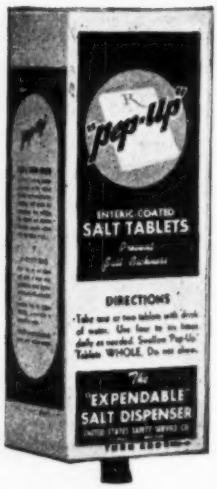

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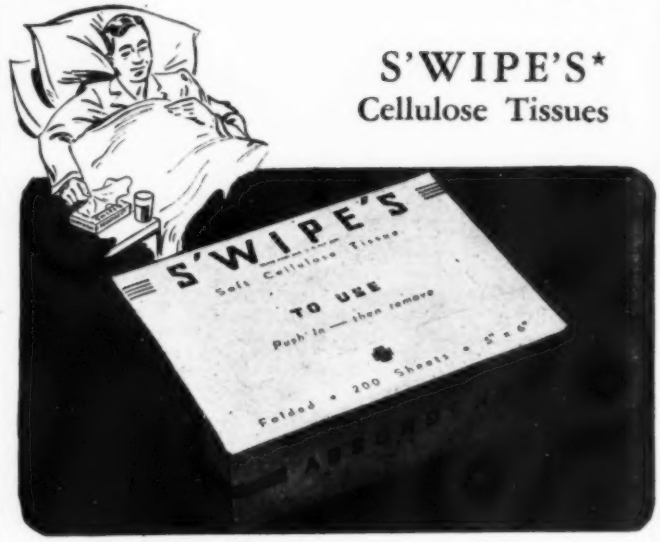

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tive for irrigations and for moistening dressings. This is prepared in quantity by inoculating 250 cc. of sterile Czapek-Dox modified medium in flat 32-ounce Rx bottles with five cc. of spore suspension; after thoroughly mixing, the bottle is placed on its side and incubated at room temperature. In about five days a thick mat of the mold covers the surface of the medium. With maturity of the growth the mat turns from white to blue-green, and then to gray. The culture liquid should then be assayed biologically for potency. We use the Oxford ring test described by Abraham *el al*[1] for this purpose. Atkinson[2] compared several quantitative methods for the assay of penicillin.

In the Oxford ring test a standard strain of *Staphylococcus aureus* is planted in a tube of liquified nutrient agar by means of a platinum loop, the temperature of the agar not exceeding 42 deg. C. The medium is agitated to distribute the bacteria and is then poured into a sterile Petri dish and allowed to harden. Sterile Oxford cylinders variously called rings and cups, made of standard size, from glass tubing, or in our case from plastic tubing, and bevelled at one end, are placed on the plate inoculated with the staphylococcus. They are pushed lightly into the agar to seal the lower end. Usually four of the Oxford cylinders are put on each plate so that four tests can be run at one time.

Each cylinder is filled with a sample of the penicillin solution to be tested by means of a sterile pipette. The Petri dish is then covered and incubated for 16 to 24 hours at 37.5 deg. C. The diameter of the clear inhibition zone around each cylinder indicates the unitage of the tested liquid. This clear area is usually 25 to 30 mm. in diameter with potent culture solution. By diluting the solutions to be assayed with sterile distilled water 1 to 2 and 1 to 10 a more accurate estimation of unitage may be calculated. The average strength of potent crude solution is five units of penicillin per cc.

When the cultures of *P. notatum* in the 250-cc. bottles have reached maximum potency, usually in eight to 10 days, the solution is filtered through sterile filter paper into sterile bottles and kept under refrigeration. This solution may be used to saturate gauze dressings or to irrigate sinus tracts or open cavities as in empyema, etc. For ear cases we use gauze wicks ½ by 2 inches placed in small, wide-mouthed, stoppered bottles, sterilized and saturated with crude penicillin solution.

T'ung[14] increased the potency of the culture solution under partial vacuum and low temperature. Carpenter[3] concentrated the culture solution by freezing and allowing the frozen solution to melt slowly at room temperature. The first and second meltings were collected separately, being differentiated by color tints. Weller[3] continued this study and separated the liquid into four fractions with decreasing unit value. The last fraction to freeze and the first to melt is darkest in color and contains the greatest concentration of penicillin. The lightest colored solution and the last to melt was found to be almost devoid of penicillin. However, the crude culture solution as originally produced is sufficiently potent for most cases.

In preparing penicillin culture solution and penicillium-inoculated gauze dressings, and in the use of these materials the following suggestions are important:

1. Avoid contamination. Use sterile technique at all times. Contamination renders the solution inert very rapidly. A cloudy solution is usually a contaminated solution.

2. Be sure the penicillium culture used is a pure culture of an authentic penicillin-producing strain of *P. notatum* from a reliable source. (Raper and Coghill [11] and Thom.[13])

3. Assay each batch biologically. (Foster and Woodruff.[7])

4. Culture and identify the bacteria causing infection if possible. The organisms should be known to be sensitive to penicillin prior to treatment.

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Summary

SIMPLE methods of production of crude penicillin solutions and inoculated gauze dressings are described, and their uses in topical therapy are discussed.

2. These penicillin preparations are cheap, easy to make, readily transportable, simple to use and markedly potent.

3. These preparations save the precious purified pencillin for the more serious generalized infections. They satisfy the need for penicillin in cases for which pure pencillin is not obtainable.

Acknowledgment: I wish to take this opportunity to express my appreciation to the members of the research laboratories of the Experiment Station, H.S.P.A., for the many hours of their time and their kindness in supplying materials and for the instruction of our corpsmen in their methods of penicillin production. Penicillin preparations produced by these methods have been used with such success in our dispensaries that I felt they should be made available to all interested naval medical activities. The writer is especially grateful to the Experiment Station, H.S.P.A., for the publication of this manuscript.

References

1. ABRAHAM, E. P., CHAIN, E., FLETCHER, C. M., GARDNER, A. D., HEATLEY, N. G., JENNINGS, M. A. and FLOREY, H. W.: Further Observations on Penicillin. *Lancet*, 2, August 16, 1941, 177-189.

2. ATKINSON, NANCY: Antibacterial Substances Produced by Molds. III. The Detection and Estimation of Antibacterial Activity *in vitro*. *Australian Jour. Exper. Biol. and Med. Sc.*, 21:127, 1943.

3. CARPENTER, C. W., WELLER, D. M. and MARTIN, J. P.: Studies with *Penicillium Notatum* Westling in Hawaii. *The Hawaiian Planters' Record*, 49: 1-23, 1945.

4. Antibacterial Properties of Yeasts, Fusarium Sp., Onion and Garlic. *The Hawaiian Planters' Record*, 49: 41-67, 1945.

5. FLEMING, ALEXANDER: On the Antibacterial Action of Cultures of a Penicillium, with Special Reference to their Use in the Isolation of *B. influenzae*. *British Jour. Exper. Path.*, 10:226-236 (Abstract), 1929.

6. FLOREY, M. E. and FLOREY, W. W.: General and Local Administration of Penicillin. *Lancet*, 1:387-397, 1943.

7. FOSTER, J. W. and WOODRUFF, H. B.: Improvements in the Cup Assay for Penicillin. *Jour. Biol. Chem.*, 148:723, 1943.

8. JOHNSON, HAROLD M.: Penicillin Therapy of Impetigo Contagiosa and Allied Diseases. *Archives of Dermatology and Syphilology*, 50: 1-5, 1944.

9. LARSEN, NILS P.: Observations with Penicillin, *Hawaii Medical Jour.*, 3:272-274, 1944.

10. Clinical Studies with Crude Penicillin. *The Hawaiian Planters' Record*, 49:25-30, 1945.

11. RAPER, K. B. and COGHILL, R. D.: Homemade Penicillin. *J.A.M.A.*, 123:1135, 1943.

12. ROBINSON, GEORGE H. and WALLACE, JAS. E.: An Inoculated Penicillin Dressing. *Science*, 98:329-330, 1943.

13. THOM, CHARLES: The Penicillia. The Williams & Wilkins Co., Baltimore.

14. T'UNG TSUN: Concentration and Preservation of Crude Penicillin. *Proc. Soc. Exper. Biol. and Med.*, 54:103-105, 1943.

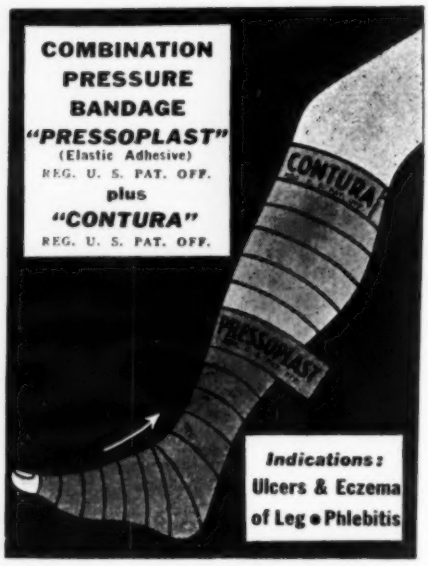
CURRENT ARTICLES of QUALITY

Evansville Survey

P. D. CRIMM, "Evansville Industrial X-Ray Survey," (*Indiana State Med. J.*, 38, 385, 388, October, 1945), Author's summary in *Industrial Hygiene Digest*, February, 1946: "Of 20,000 industrial employees who worked in Evansville during 12 months (1944-1945) 22 active cases of tuberculosis were discovered. Of the 20,000 employees, 70.8% were negative for pulmonary tuberculosis, while 22.5% had primary tuberculosis and 6.7% had secondary tuberculosis. An additional 18 cases working in industry, who were not x-rayed by the Mobile Unit, made a total of 40 active cases, or two cases per 1,000. Stereoscopic 4 x 10 inch films were used satisfactorily in all but 0.7% of the cases. Seven hundred and thirty-three workers revealed other thoracic cage, heart and lung conditions. Compulsory x-ray examination of all industrial employees, coupled with compulsory pre-employment x-rays is necessary to reduce morbidity and mortality rates of tuberculosis."

The Thymol-Barbital Test

CAREY P. MCCORD, M.D., JAMES H. STERNER, M.D., LEWIS L. KLINE, M.D., and PEARL E. WILLIAMS, B.S., "The Thymol-Barbital Test in Experimental Carbon Tetrachloride Poisoning," in *Occupational Medicine*, 1:2, 160-167, February, 1946. Summary: "The thymol-barbital test (thymol turbidity test) has been applied in an experimental investigation of animals (rabbits—rats) directed to the establishment of the first demonstrable evidences of organic damage from carbon tetrachloride after its inhalation in vapor form. At three concentration levels (40, 60 and 80 parts per million) some increases in thymol turbidity have appeared at the end of five days' exposure, with further increases by the end of 10 days' ex-



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posure (12 days' elapsed time). Injurious action, if any, at lower concentration than 40 parts per million has not been explored. The increase in thymol turbidity arising in the course of exposure essentially disappears by the end of seven days after the termination of exposure. Evidence of injury other than thymol turbidity from carbon tetrachloride in concentrations of 40 parts per million has been secured for rats, and for both rats and rabbits from higher concentrations. The earliest demonstrable effects in animals induced by relatively low concentrations of carbon tetrachloride appear to be a variation in phospholipid metabolism as measured by the thymol-barbital turbidity test. The association of the continued or more severe degrees of test reaction with well defined organic injury suggests that the responses at the above levels are indicative of incipient organic damage."

Sore Finger-Tips

J. V. BATES, "Sore Finger-Tips in Industry: Protection by Hydrogen Peroxide", (*Brit. Med. J.*, 2, 154-156, August, 4, 1945); author's summary in *Industrial Hygiene Digest*, February, 1946: "An accidental observation by a wire-stitching machine operator in a paper-bag factory has led to the discovery of a method which largely protects the skin of the finger-tips from damage by the constant friction in this work. The operator is supplied with a small quantity of 20-vol. hydrogen peroxide, into which each finger is dipped. The necessary number of applications varies from three times a week to four times a day. All the workers have noted the considerable protection which this treatment affords. In a group of 12 women working under strictly comparable conditions for a period of 6 months before and after treatment, the number of attendances at the surgery for the treatment of sore and bleeding fingertips fell from 192 to 21. The result of this small series would appear to make further trials on a larger scale worth while."

Malingering

W. A. HUNT, "The Detection of Malingering," (*U. S. Naval Med. Bull.*, 46, 249-254, February, 1946), Abs. from *J. Indust. Hyg. & Tox.*, in *Industrial Hygiene Digest*, February, 1946: "There are two kinds of malingering, the 'pure,' conscious or asymptomatic, and the symptomatic. The first type is rare and easy to detect; the second is more frequent and grades insensibly into the unconscious mechanisms of hysteria, and can be handled only by treating the basic psychopathosis. The detection of malingering is based upon the fact that the malingerer is not familiar with the complete picture of the disease he is simulating and hence is unable to duplicate it. This offers an ideal opportunity for the psychologist with his testing technics. In an extensive series of tests varying in difficulty, the pattern of the answers by malingerers was easily distinguishable from those of feeble-minded and schizophrenic persons. Exaggerated errors are especially common in the tests in which the malingerer is familiar with the materials, while in an unfamiliar situation such as the interpretation of Rorschach ink blots, the response of the malingerer is one of extreme caution. However, the same response picture is often seen in neurotics and anxiety subjects."

Value of Psychiatry

L. S. KUBIE "Psychiatry and Industry," (*Mental Hygiene*, 29, 201-207, April, 1945); Abs. from *J. Indust. Hyg. & Tox.*, in *Industrial Hygiene Digest*, February, 1946: "It is concluded that psychiatry can be of value to industry by the following: (1) screening out those workers who are totally unemployable and providing for their shelter, care and treatment; (2) allocating to specially chosen tasks, or to sheltered workshops, those who can remain well only under special working conditions; (3) evaluating individuals both as to their special technical aptitudes and as to their special personality quirks, and allocating them to jobs which fit both special conditions; (4) applying

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therapeutic principles to the individual worker who is maladjusted; (5) using social service procedures to assist workers in coping with those out-of-plant problems which affect both their total psychological adjustment and their plant efficiency; (6) studying the incidence of neurotic disturbances in different types of work and under different working conditions; and (7) comparing the efficiency of different systems of job training, etc. A discussion of some of the problems that must be met in order to establish a psychiatric service for industry follows."

That Induction Percentage

LOWELL S. GOIN, M.D., "The Philosophical Background of Compulsory Health Insurance," in the *Weekly Bulletin of the St. Louis Medical Society*, 40:26, 307-312, March, 1946. Excerpt: "Even if one admitted the need of a health insurance program it would be well to know in advance whether it would actually achieve the objects for which it is intended. Since compulsory health insurance plans have been in effect in various parts of the world for considerable periods of time it should be possible to discover the effect that such plans have upon public health by examination of the morbidity and mortality tables of such countries as 'enjoy the benefits' of compulsory health insurance. Germany and England are countries which may reasonably be compared to our own, being, as they are, highly industrialized nations with large populations. Compulsory health insurance has been in existence in Germany for nearly 60 years and in England for nearly 35 years. Since so much has been made of the rejections for the Armed Services it will be interesting to compare these rejections with those in England. About 38% of those called for induction in the United States were rejected for physical reasons. In England, although the standards for the armed forces are not as high as those maintained in the United States, the rate of rejection was 50% and this after England has 'enjoyed' the benefits of compulsory health insurance for more than a third of a century."

Jobs for the One-Eyed

JOSEPH MINTON, F.R.C.S., MAJOR, R.A.M.C., "The One-Eyed Worker," in *The Sight-Saving Review*, 15:3, 161-166, Fall, 1945. Excerpt: "I am often asked by parents of one-eyed children, as well as by labor managers of large industrial establishments, what occupations I consider suitable for one-eyed people. Of course this depends on the vision of the one good eye. If the vision of this eye is 6/6 or 6/9, the one-eyed person can follow comfortably all occupations involving close work such as the professions of medicine and dentistry, draftsmen in surveyors' or architects' offices, clerical work, watch-making, jewel work, and even the fine close work required in the manufacture of artificial silk yarn or hose or the inspection and manufacture of electric light bulbs and radio valves. In the metal and engineering trades, the one-eyed men with 6/6 or 6/9 vision are fit for most jobs, but of course I would advise against constant close work and would suggest employment in the food and distributive trades, building trades, or many others. In this country one-eyed people with 6/12 vision can pass the driving test for motor vehicles. There are no official statistics as to car accident records of one-eyed people. In my experience there are no reasons against the employment of one-eyed drivers. If the vision of the one eye is less than 6/12, I would suggest gardening, farming or domestic service as the most suitable occupations. The eye injuries of the war will add a large number of men to the mass of one-eyed workers. Many of these men will be anxious to return to their prewar employment. Will it be safe for them to do so in all cases? I would certainly say "No." The danger of injury to the remaining eye should always be considered when men wish to return to work in the engineering and metal trades. The men should be advised against returning to work which involves chipping, hammering or the drilling of metal."

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*Friederwald, J., and Morrison, S.: Functional Disturbances of the Digestive Tract, in Nelson New Loose-Leaf Medicine, 1941, vol. 1, p. 161

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